



# **STIC Search Report**

## **EIC 1700**

**STIC Database Tracking Number: 226030**

**TO: Gregory Listvoyb**  
**Location: REM 10A28**  
**Art Unit : 1711**  
**June 4, 2007**

**Case Serial Number: 10/522523**

**From: Usha Shrestha**  
**Location: EIC 1700**  
**REMSSEN 4B28**  
**Phone: 571/272-3519**  
**Usha.shrestha@uspto.gov**

### **Search Notes**

Examiner Gregory Listvoyb ,

See attached results.

If you have any questions about this search feel free to contact me at any time.

Thank you for using STIC search services!

Usha Shrestha  
Technical Information Specialist  
EIC 1700  
(571)272-3519

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Gregory Listvay Examiner #: \_\_\_\_\_ Date: 5/24/07  
Art Unit: 1711 Phone Number 30 26105 Serial Number: 10/522523  
Mail Box and Bldg/Room Location: R 10A28 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**  
\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Ctr.

Earliest Priority Filing Date: \_\_\_\_\_

MAY 25 REC'D

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Pat. & T.M. Office

Cl 1-47 Pref: structure of diamine.



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or *contact:*

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art *found*, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.).

➤ Relevant prior art *not found*:

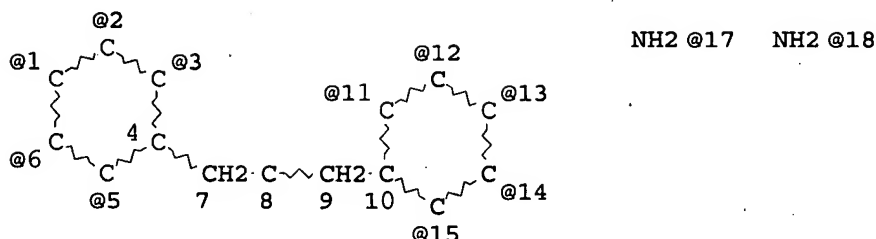
- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

=&gt; d que 126

L15 STR



VPA 17-11/12/13/14/15 U

VPA 18-3/2/1/5/6 U

NODE ATTRIBUTES:

NSPEC IS RC AT 8

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L17 77 SEA FILE=REGISTRY SSS FUL L15

L19 53 SEA FILE=HCAPLUS ABB=ON PLU=ON L17

L21 16 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 AND (POLYMER? OR PLASTIC?)/SC,SX

L22 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 AND PHOTO?

L23 39 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 AND PREP/RL

L24 16 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 AND RACT/RL

L25 40 SEA FILE=HCAPLUS ABB=ON PLU=ON (L21 OR L22 OR L23 OR L24)

L26 37 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 AND (1840-2003)/PRY,AY ,PY

=&gt; sel l26 hit rn 1-

E48 THROUGH E106 ASSIGNED

=&gt; d l26 1-37 ibib ed abs hitstr hitind

L26 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:522723 HCAPLUS

DOCUMENT NUMBER: 143:50785

TITLE: Liquid crystal-alignment agent in liquid crystal displays

INVENTOR(S): Tamura, Norihisa

PATENT ASSIGNEE(S): Chisso Corp., Japan; Chisso Petrochemical Corporation

SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005157346 A 20050616 JP 2004-322855 20041105

KR 2005043708 A 20050511 KR 2004-89857 20041105

PRIORITY APPLN. INFO.: JP 2003-375855 A 20031105

ED Entered STN: 17 Jun 2005

AB The title alignment agent is polyamic acid or its polyimide derivative and contains 10-100 mol% of -NH-C(=O)-R1(COOH)2C(=O)-NH-A1-X-Q-X-A2-repeating unit and 0-90 mol % of -NH-C(=O)-R1(COOH)2C(=O)-NH-R2-repeating unit (R1 = 4-valent organic group; R2 = 2-valent organic group; A1-2 = 2-valent aromatic or condensed ring; X = single bond, O, S; Q = -(CH2)p-, -((CH2)O)q(CH2)2-; p = integer 3-10; q = integer 1-3). The agent shows high voltage hold ratio(VHR) and low residual charge and provides stable pretilt angles of liquid crystals.

IT 853575-61-8P 853575-64-1P 853575-65-2P  
853575-66-3P

(liquid crystal-alignment agent in liquid crystal displays)

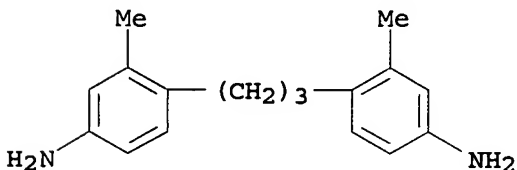
RN 853575-61-8 HCAPLUS

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CRN 853575-60-7

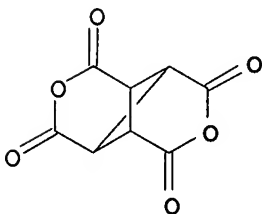
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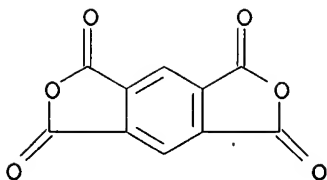
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CM 3

CRN 89-32-7

CMF C10 H2 O6

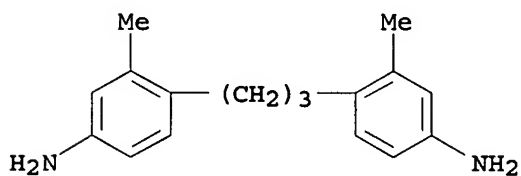


RN 853575-64-1 HCAPLUS  
 CN Cyclobuta[1,2-c:3,4-c']difurantetrone, tetrahydro-, polymer with  
 4,4'-(1,3-propanediyl)bis[3-methylbenzenamine] (9CI) (CA INDEX NAME)

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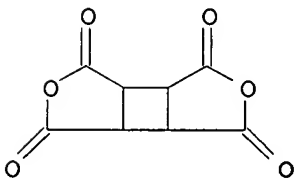
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CM 2

CRN 4415-87-6

CMF C8 H4 O6

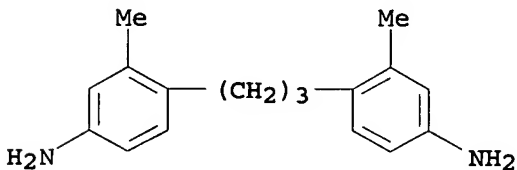


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 1,4-benzenediamine, 4,4'-(1,3-propanediyl)bis[3-methylbenzenamine] and  
 tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

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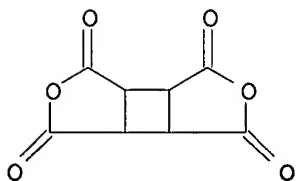
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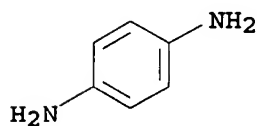
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CRN 106-50-3

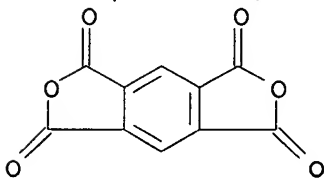
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CM 4

CRN 89-32-7

CMF C10 H2 O6



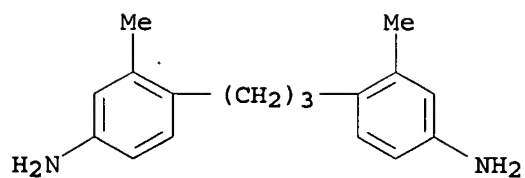
RN 853575-66-3 HCAPLUS

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with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone,  
4,4'-methylenebis[benzenamine], 4,4'-(1,3-propanediyl)bis[3-  
methylbenzenamine] and tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone  
(9CI) (CA INDEX NAME)

CM 1

CRN 853575-60-7

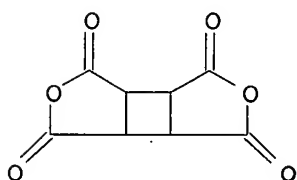
CMF C17 H22 N2



CM 2

CRN 4415-87-6

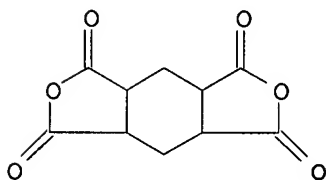
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CM 3

CRN 2754-41-8

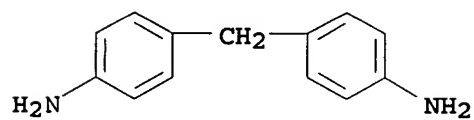
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CM 4

CRN 101-77-9

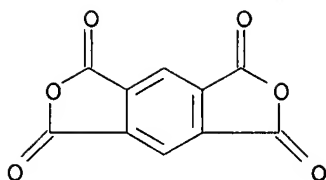
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CM 5

CRN 89-32-7

CMF C10 H2 O6



IC ICM G02F001-1337  
ICS C08G073-10  
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 37  
IT 853575-61-8P 853575-62-9P 853575-63-0P  
853575-64-1P 853575-65-2P 853575-66-3P  
853575-67-4P 853575-68-5P 853575-70-9P 853575-73-2P  
853575-75-4P 853575-77-6P 853575-78-7P 853575-79-8P  
853575-80-1P 853575-81-2P 853575-83-4P 853575-84-5P  
853575-85-6P 853575-87-8P 853575-88-9P  
(liquid crystal-alignment agent in liquid crystal displays)

L26 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:522127 HCAPLUS

DOCUMENT NUMBER: 143:68443

TITLE: Diamines, polyamic acids and polyimides prepared therefrom, liquid crystal alignment agents and films, and liquid crystal displays

INVENTOR(S): Tamura, Norihisa

PATENT ASSIGNEE(S): Chisso Corp., Japan; Chisso Petrochemical Corporation

SOURCE: Jpn. Kokai Tokkyo Koho, 46 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

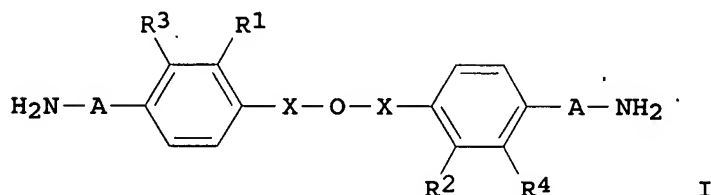
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005154436	A	20050616	JP 2004-322856	20041105
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KR 2005043707	A	20050511	KR 2004-89856	20041105
			<--	
PRIORITY APPLN. INFO.:			JP 2003-375856	A 20031105
			<--	

OTHER SOURCE(S): MARPAT 143:68443

ED Entered STN: 17 Jun 2005

GI



AB The diamines are represented by I [ $Q = (CH_2)_n$ ,  $[(CH_2)_2O]_m(CH_2)_2$ ;  $n = 3-10$ ;  $m = 1-3$ ; A = single bond, (F-, C1-4 alkyl-, C1-4 alkoxy-substituted) 1,4-phenylene; R1, R2 = H, F, C1-4 alkyl, C1-4 alkoxy; R3, R4 = H, F; X = single bond, O, S;  $\geq 1$  of R1, R2 = F, C1-4 alkyl, C1-4 alkoxy when  $Q = (CH_2)_n$ , A = single bond, X = single bond, S;  $\geq 1$  of R1-R4 = F when A = single bond, X = O]. The liquid crystal displays have stable pretilt angles and high voltage holding ratio (VHR).

IT 853796-69-7P 853796-71-1P  
(diamines for manufacture of polyamic acids and polyimides useful as liquid crystal alignment agents for liquid crystal displays)

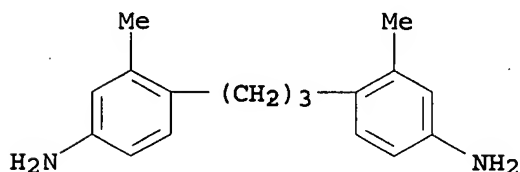
RN 853796-69-7 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 4,4'-(1,3-propanediyl)bis[3-methylbenzenamine] and tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

CM 1

CRN 853575-60-7

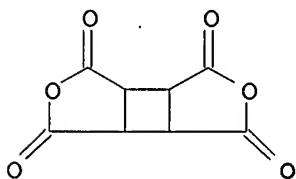
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CRN 4415-87-6

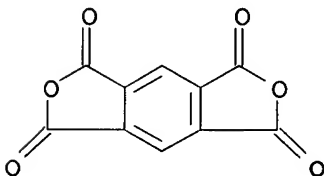
CMF C8 H4 O6



CM 3

CRN 89-32-7

CMF C10 H2 O6

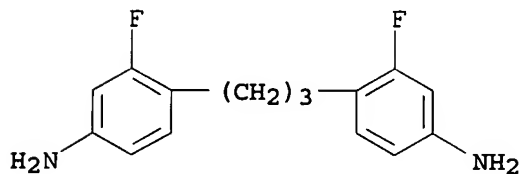


RN 853796-71-1 HCAPLUS  
 CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with  
 4,4'-(1,3-propanediyl)bis[3-fluorobenzenamine] and  
 tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

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CRN 853796-44-8

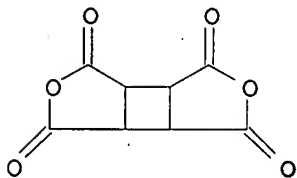
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CM 2

CRN 4415-87-6

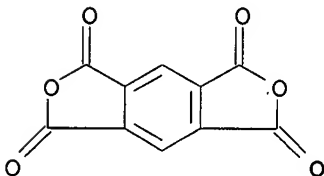
CMF C8 H4 O6



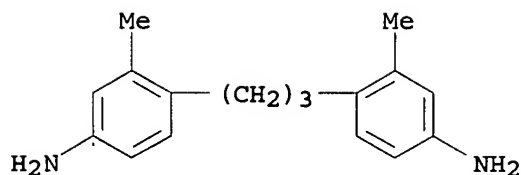
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CRN 89-32-7

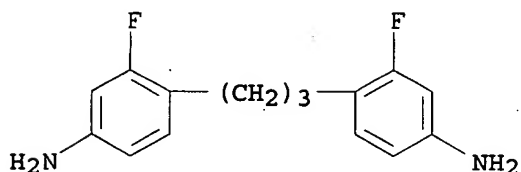
CMF C10 H2 O6



IT 853575-60-7P 853796-44-8P  
 (diamines for manufacture of polyamic acids and polyimides useful as  
 liquid crystal alignment agents for liquid crystal displays)  
 RN 853575-60-7 HCAPLUS  
 CN Benzenamine, 4,4'-(1,3-propanediyl)bis[3-methyl- (9CI) (CA INDEX  
 NAME)



RN 853796-44-8 HCAPLUS  
 CN Benzenamine, 4,4'-(1,3-propanediyl)bis[3-fluoro- (9CI) (CA INDEX NAME)



IC ICM C07C211-54  
 ICS C07C211-56; C07C217-76; C07C323-29; C08G073-10; G02F001-1337  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 25, 38  
 IT 853796-69-7P 853796-71-1P 853796-73-3P  
 853796-75-5P 853796-76-6P 853796-78-8P 853796-80-2P  
 853796-82-4P 853796-83-5P 853796-85-7P 853796-87-9P  
 853796-89-1P 853796-91-5P 853796-92-6P 853796-94-8P  
 853926-90-6P  
 (diamines for manufacture of polyamic acids and polyimides useful as liquid crystal alignment agents for liquid crystal displays)  
 IT 4642-38-0P 853575-60-7P 853796-39-1P 853796-41-5P  
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 853796-64-2P 853796-66-4P 853796-68-6P  
 (diamines for manufacture of polyamic acids and polyimides useful as liquid crystal alignment agents for liquid crystal displays)

L26 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:97228 HCAPLUS

DOCUMENT NUMBER: 140:164372

TITLE: Photoactive materials, polymers, and alignment layers for (electro)optical devices

INVENTOR(S): Marck, Guy; Muller, Olivier

PATENT ASSIGNEE(S): Rollic AG, Switz.

SOURCE: Eur. Pat. Appl., 42 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1386910	A1	20040204	EP 2002-405659	20020730

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 WO 2004013086 A1 20040212 WO 2003-CH507 20030725

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 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,  
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 ZA, ZM, ZW

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AU 2003281851 A1 20040223 AU 2003-281851 20030725

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EP 1525182 A1 20050427 EP 2003-739944 20030725

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IN 2004MN00763 A 20051118 IN 2004-MN763 20041228

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US 2005288480 A1 20051229 US 2005-522523 20050126

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PRIORITY APPLN. INFO.: EP 2002-405659 A 20020730

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WO 2003-CH507 W 20030725

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OTHER SOURCE(S): MARPAT 140:164372

ED Entered STN: 06 Feb 2004

AB Diamine compds. H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>C(A<sub>1</sub>A<sub>2</sub>)CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub> are useful as precursors  
 for the production of liquid crystal alignment layers, where A<sub>1</sub> = (mesogen)  
 organic group of 1-40 C atoms, A<sub>2</sub> = H or an organic group of 1-40 C atoms.  
 The diamines containing mesogenic groups are polymerized with aromatic  
 anhydrides

to yield polyamic acids and polyimides for alignment layers.

IT 653307-88-1P 653307-93-8P 653307-98-3P

653308-06-6P 653308-15-7P 653308-24-8P

653308-36-2P 653308-42-0P 653308-50-0P

653308-62-4P 653571-26-7P

(photoreactive diamine precursors for  
 photosensitive polymer materials with good light stability  
 for liquid crystal orientation layers)

RN 653307-88-1 HCAPLUS

CN Propanedioic acid, bis[(4-aminophenyl)methyl]-, bis[6-[[4-[(1E)-3-  
 methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl] ester, polymer with  
 tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

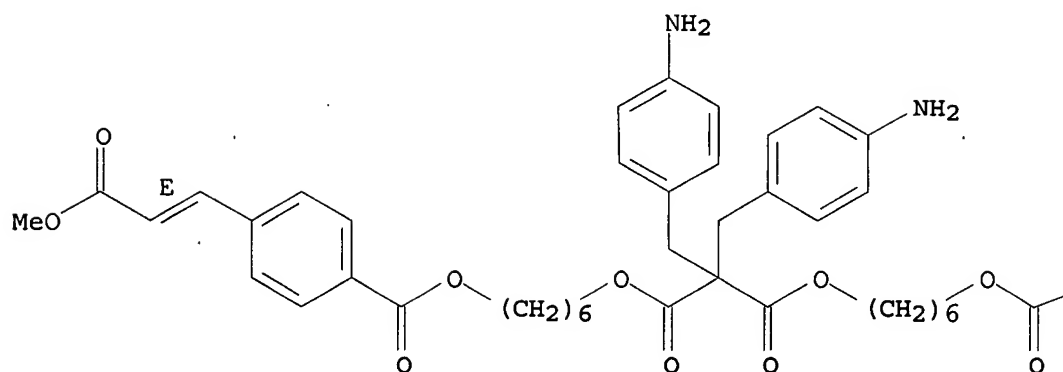
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CRN 653306-91-3

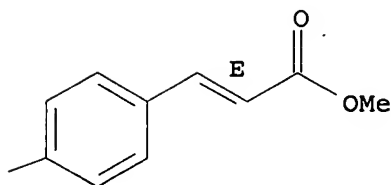
CMF C51 H58 N2 O12

Double bond geometry as shown.

PAGE 1-A



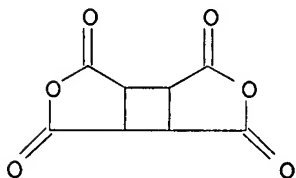
PAGE 1-B



CM 2

CRN 4415-87-6

CMF C8 H4 O6



RN 653307-93-8 HCAPLUS

CN Propanedioic acid, bis[(4-aminophenyl)methyl]-, bis[6-[[4-[(1E)-3-methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl] ester, polymer with 3a,4,5,9b-tetrahydro-5-(tetrahydro-2,5-dioxo-3-furanyl)naphtho[1,2-c]furan-1,3-dione (9CI) (CA INDEX NAME)

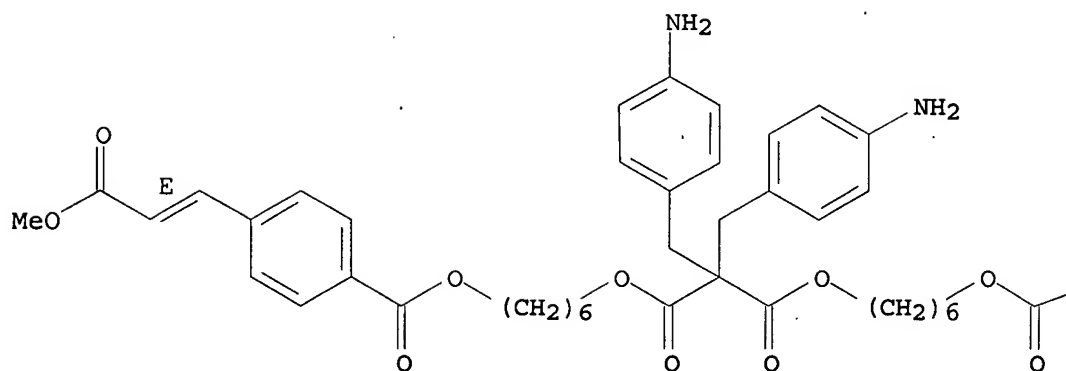
CM 1

CRN 653306-91-3

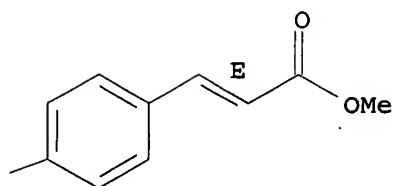
CMF C51 H58 N2 O12

Double bond geometry as shown.

PAGE 1-A



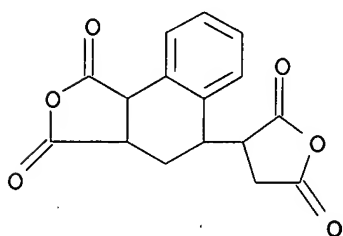
PAGE 1-B



CM 2

CRN 13912-65-7

CMF C16 H12 O6



RN 653307-98-3 HCAPLUS

CN Propanedioic acid, bis[(4-aminophenyl)methyl]-, bis[6-[[4-[(1E)-3-methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl] ester, polymer with 3a,4,5,7a-tetrahydro-7-methyl-5-(tetrahydro-2,5-dioxo-3-furanyl)-1,3-isobenzofurandione (9CI) (CA INDEX NAME)

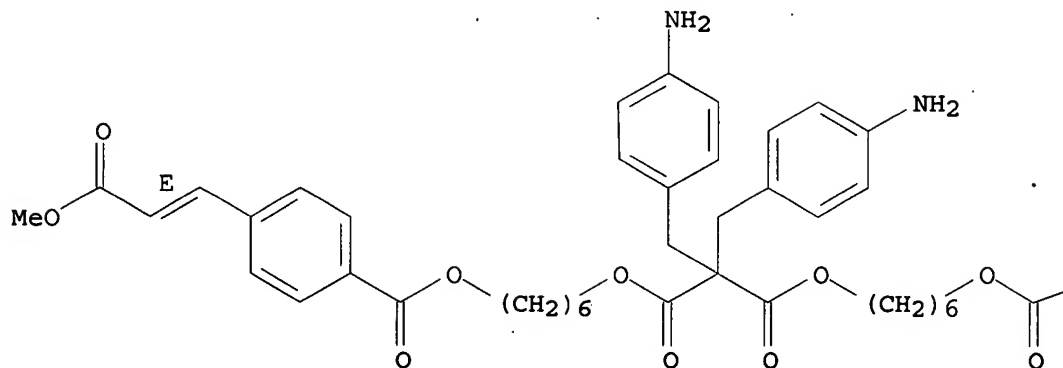
CM 1

CRN 653306-91-3

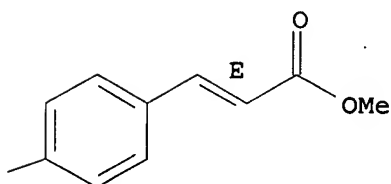
CMF C51 H58 N2 O12

Double bond geometry as shown.

PAGE 1-A



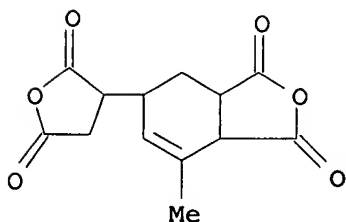
PAGE 1-B



CM 2

CRN 73003-90-4

CMF C13 H12 O6



RN 653308-06-6 HCAPLUS

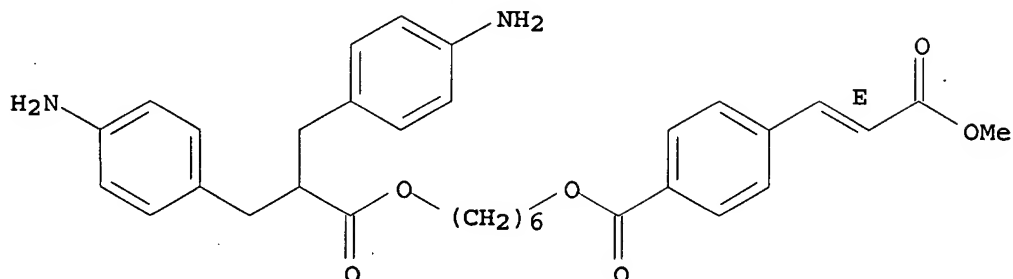
CN Benzenepropanoic acid, 4-amino- $\alpha$ -[(4-aminophenyl)methyl]-,  
 6-[[4-[(1E)-3-methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl ester,  
 polymer with tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI)  
 (CA INDEX NAME)

CM 1

CRN 653307-25-6

CMF C33 H38 N2 O6

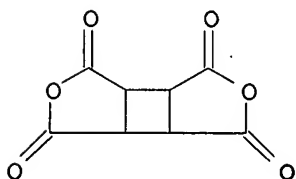
Double bond geometry as shown.



CM 2

CRN 4415-87-6

CMF C8 H4 O6



RN 653308-15-7 HCAPLUS

CN Propanedioic acid, bis[(4-aminophenyl)methyl]-, bis[7-[[4-[(1E)-3-methoxy-3-oxo-1-propenyl]benzoyl]oxy]heptyl] ester, polymer with tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

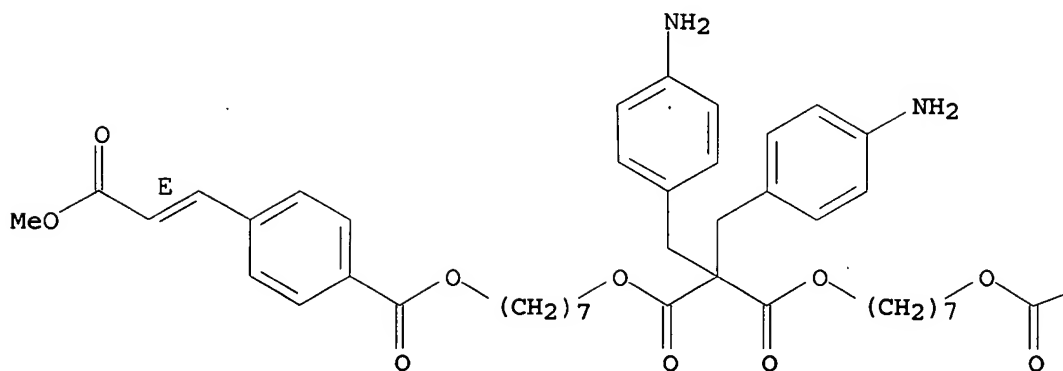
CM 1

CRN 653308-14-6

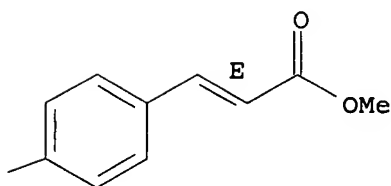
CMF C53 H62 N2 O12

Double bond geometry as shown.

PAGE 1-A



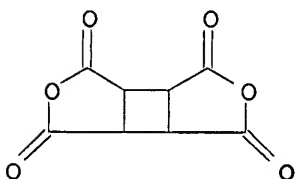
PAGE 1-B



CM 2

CRN 4415-87-6

CMF C8 H4 O6



RN 653308-24-8 HCAPLUS

CN Propanedioic acid, bis[(4-aminophenyl)methyl]-, bis[6-[[4-[(1E)-3-ethoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl] ester, polymer with tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

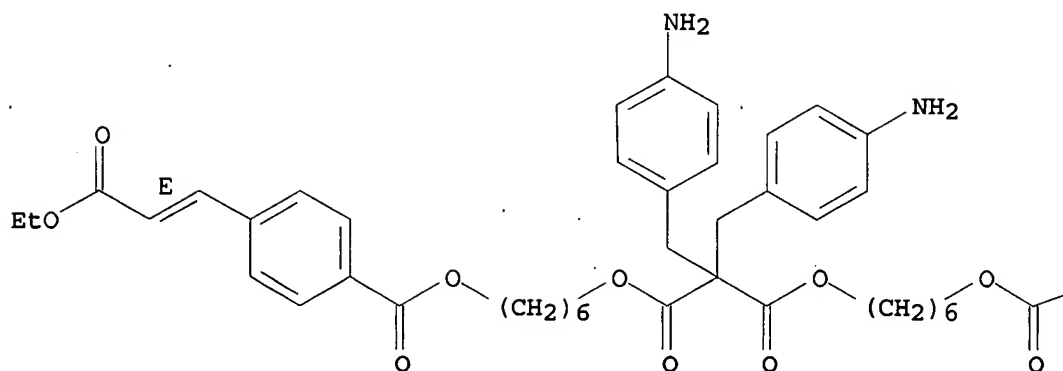
CM 1

CRN 653308-23-7

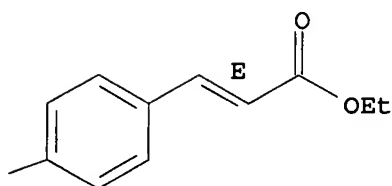
CMF C53 H62 N2 O12

Double bond geometry as shown.

PAGE 1-A



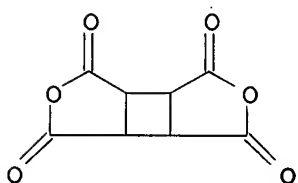
PAGE 1-B



CM 2

CRN 4415-87-6

CMF C8 H4 O6



RN 653308-36-2 HCAPLUS

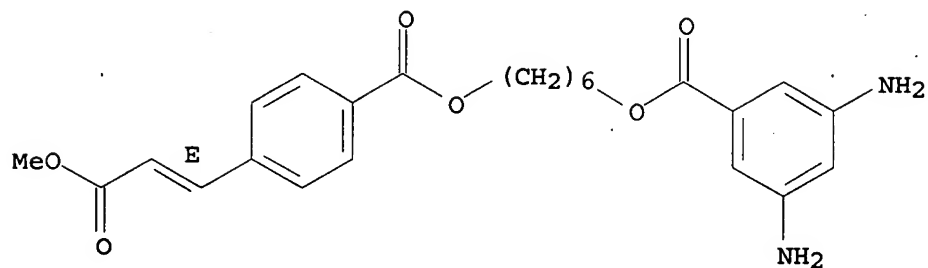
CN Cholest-5-en-3-ol (3 $\beta$ )-, 4-amino- $\alpha$ -[(4-aminophenyl)methyl]benzenepropanoate, polymer with 6-[[4-[(1E)-3-methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl 3,5-diaminobenzoate and tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

CM 1

CRN 653308-35-1

CMF C24 H28 N2 O6

Double bond geometry as shown.

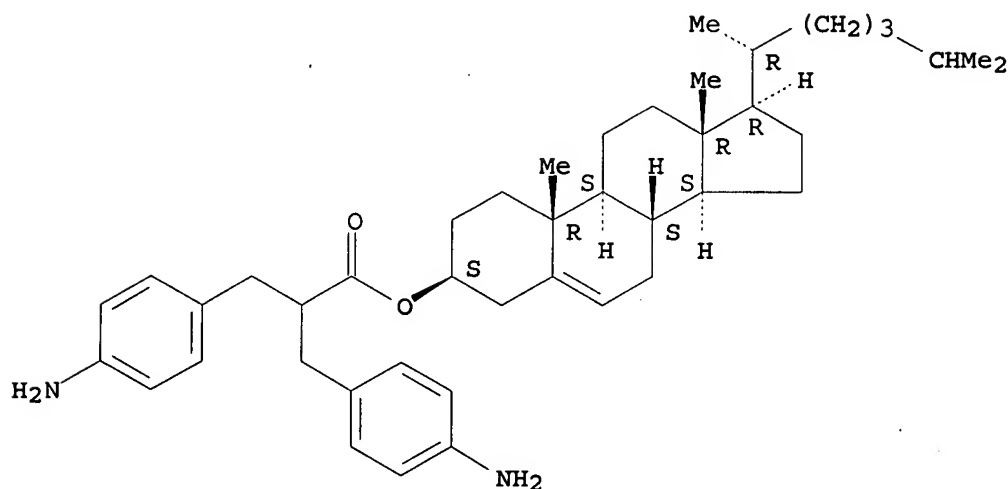


CM 2

CRN 653307-36-9

CMF C43 H62 N2 O2

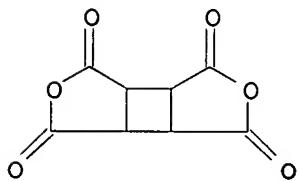
Absolute stereochemistry.



CM 3

CRN 4415-87-6

CMF C8 H4 O6



RN 653308-42-0 HCAPLUS

CN Hexanoic acid, 6-[4-[(1E)-3-methoxy-3-oxo-1-propenyl]phenoxy]-, 2,2-bis[(4-aminophenyl)methyl]-1,3-propanediyl ester, polymer with

tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

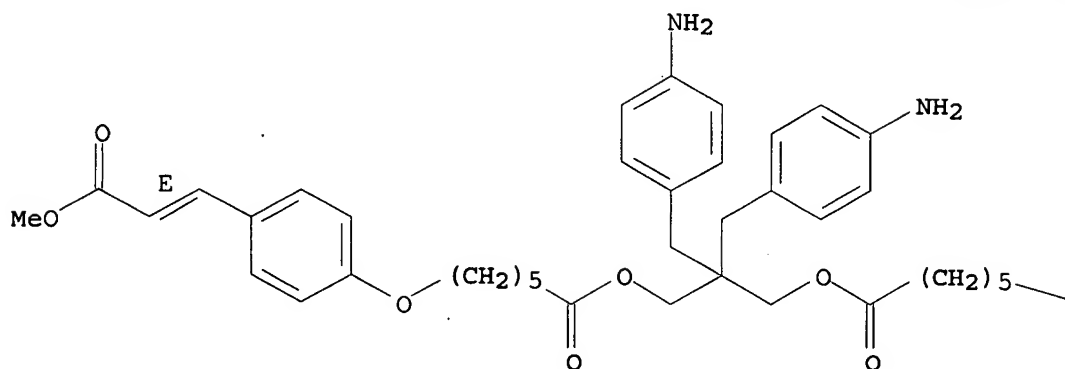
CM 1

CRN 653307-62-1

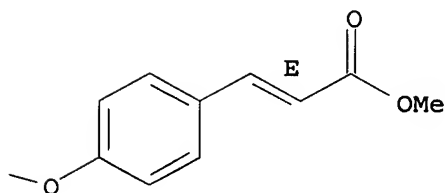
CMF C49 H58 N2 O10

Double bond geometry as shown.

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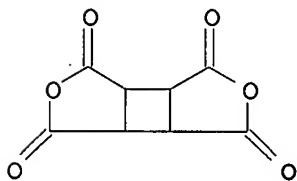
PAGE 1-B



CM 2

CRN 4415-87-6

CMF C8 H4 O6



RN 653308-50-0 HCAPLUS

CN Propanedioic acid, bis[(4-aminophenyl)methyl]-, bis[6-[[4-[(1E)-3-

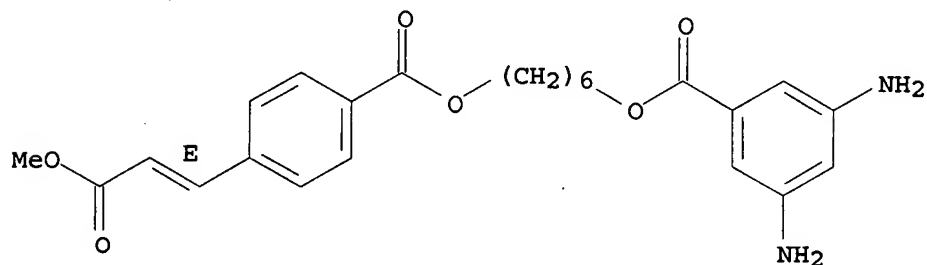
methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl] ester, polymer with  
 6-[[4-[(1E)-3-methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl  
 3,5-diaminobenzoate and tetrahydrocyclobuta[1,2-c:3,4-  
 c']difurantetrone (9CI) (CA INDEX NAME)

CM 1

CRN 653308-35-1

CMF C24 H28 N2 O6

Double bond geometry as shown.

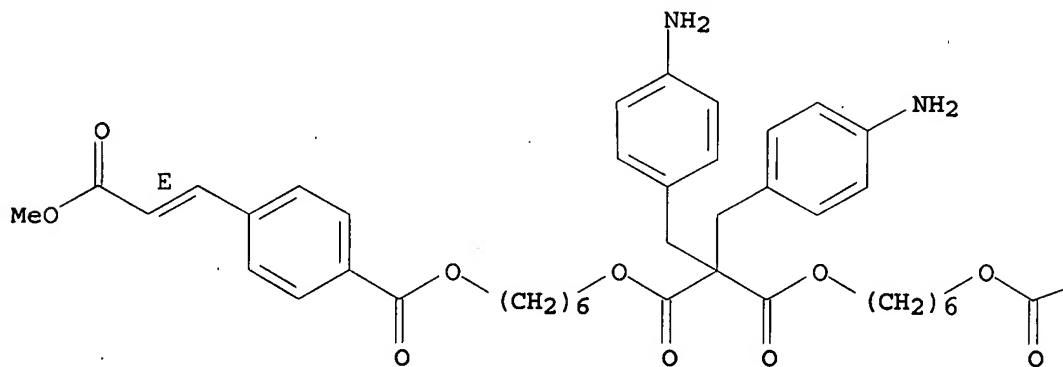


CM 2

CRN 653306-91-3

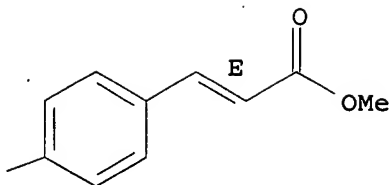
CMF C51 H58 N2 O12

Double bond geometry as shown.



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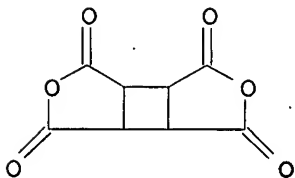
PAGE 1-B



CM 3

CRN 4415-87-6

CMF C8 H4 O6



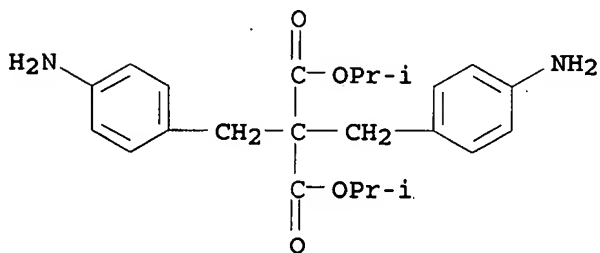
RN 653308-62-4 HCAPLUS

CN Propanedioic acid, bis[(4-aminophenyl)methyl]-, bis(1-methylethyl) ester, polymer with 6-[[4-[(1E)-3-methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl 3,5-diaminobenzoate and tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

CM 1

CRN 653308-61-3

CMF C23 H30 N2 O4

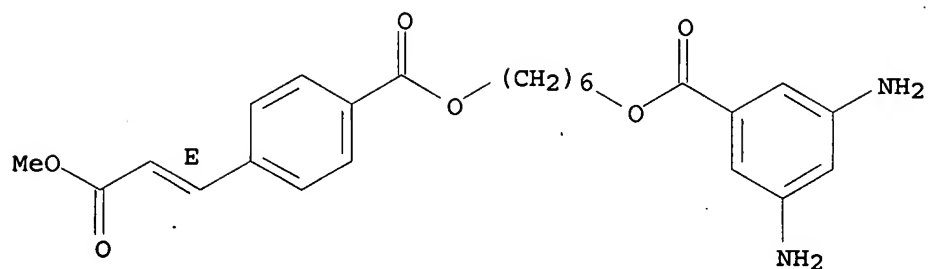


CM 2

CRN 653308-35-1

CMF C24 H28 N2 O6

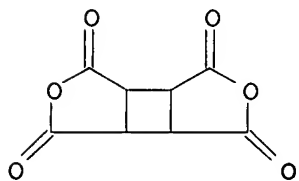
Double bond geometry as shown.



CM 3

CRN 4415-87-6

CMF C8 H4 O6



RN 653571-26-7 HCAPLUS

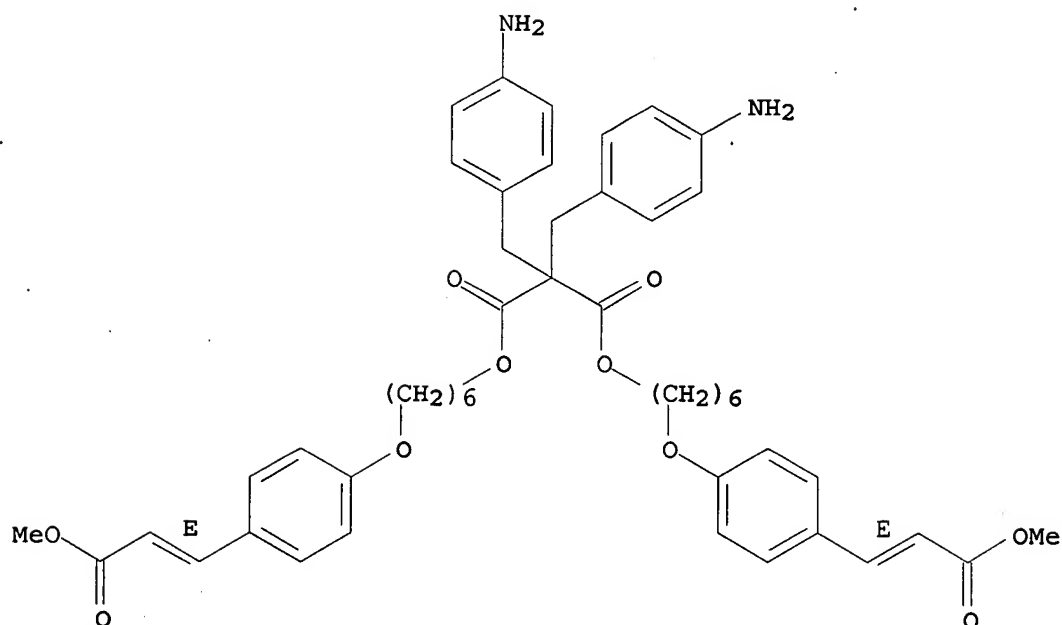
CN Propanedioic acid, bis[(4-aminophenyl)methyl]-, bis[6-[4-[(1E)-3-methoxy-3-oxo-1-propenyl]phenoxy]hexyl] ester, stereoisomer, polymer with tetrahydrocyclobuta[1,2-c:3,4-c']difurantetrone (9CI) (CA INDEX NAME)

CM 1

CRN 653571-25-6

CMF C49 H58 N2 O10

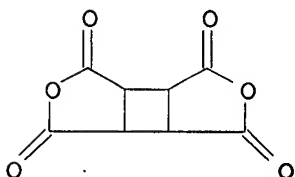
Double bond geometry as shown.



CM 2

CRN 4415-87-6

CMF C8 H4 O6



IT 653306-91-3P 653307-25-6P 653307-36-9P  
653307-62-1P

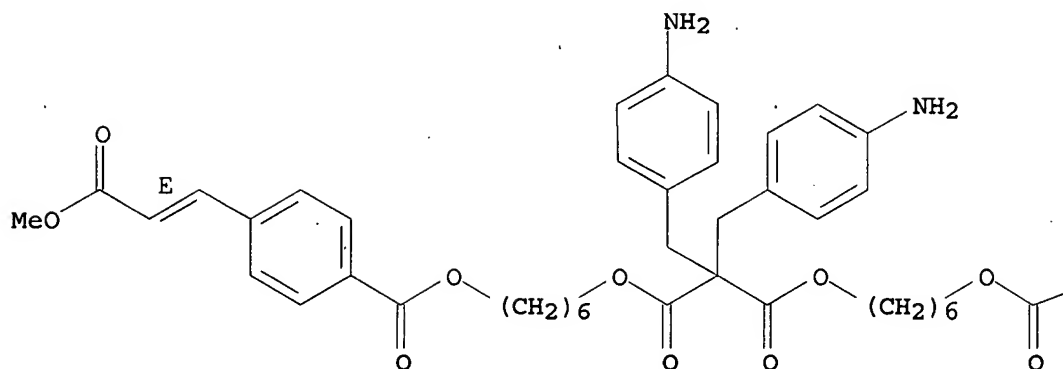
(preparation and polymerization; **photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

RN 653306-91-3 HCAPLUS

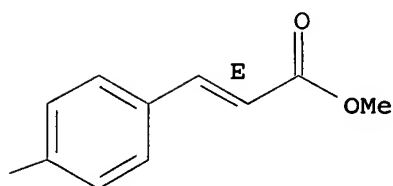
CN Propanedioic acid, bis[(4-aminophenyl)methyl]-, bis[6-[[4-[(1E)-3-  
methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl] ester (9CI) (CA INDEX  
NAME)

Double bond geometry as shown.

PAGE 1-A

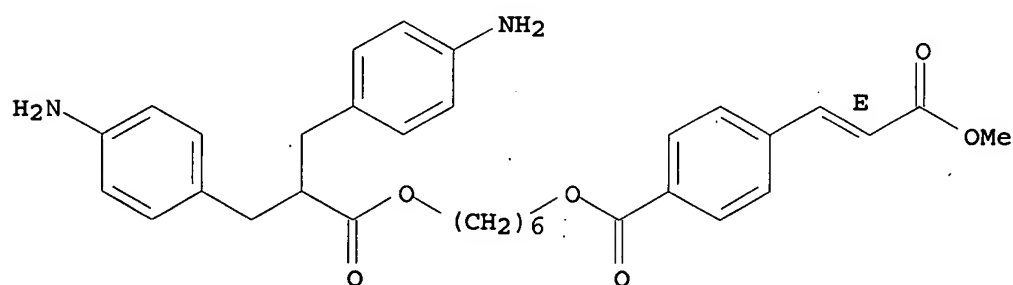


PAGE 1-B



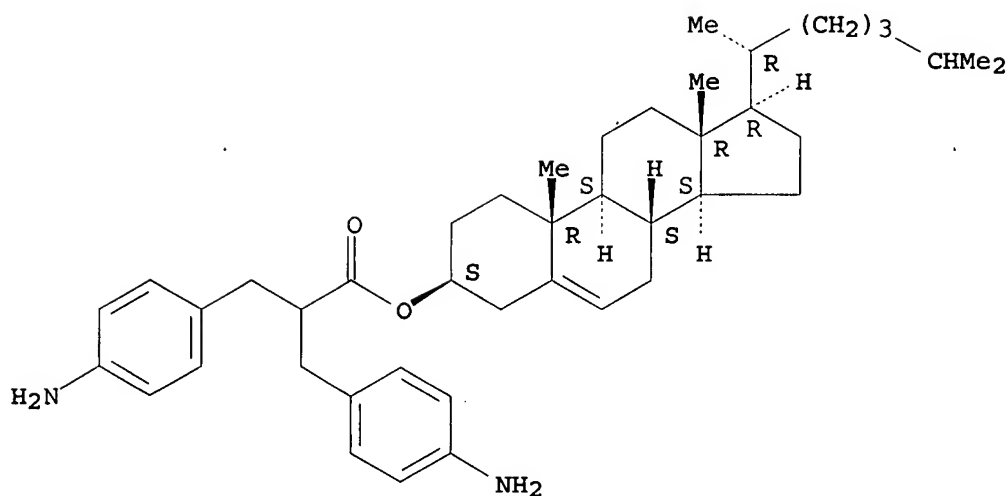
RN 653307-25-6 HCAPLUS  
 CN Benzenepropanoic acid, 4-amino- $\alpha$ -[(4-aminophenyl)methyl]-,  
 6-[[4-[(1E)-3-methoxy-3-oxo-1-propenyl]benzoyl]oxy]hexyl ester (9CI)  
 (CA INDEX NAME)

Double bond geometry as shown.



RN 653307-36-9 HCAPLUS  
 CN Cholest-5-en-3-ol (3 $\beta$ )-, 4-amino- $\alpha$ -[(4-aminophenyl)methyl]benzenepropanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

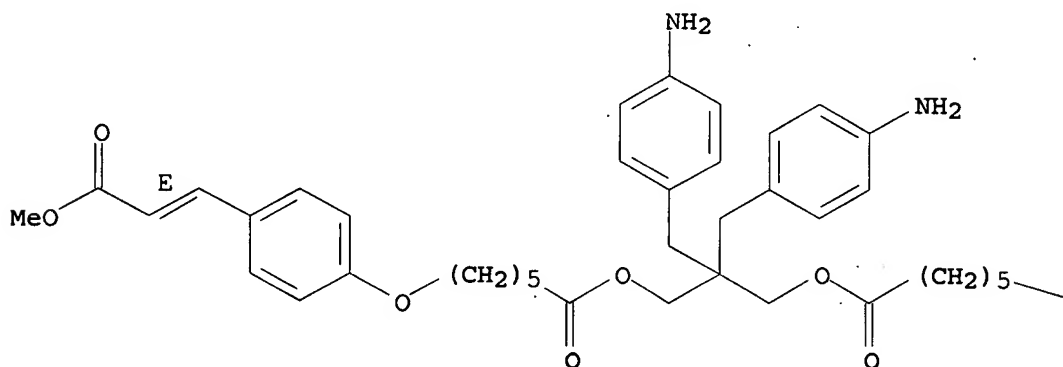


RN 653307-62-1 HCAPLUS

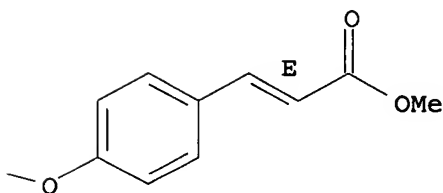
CN Hexanoic acid, 6-[4-[(1E)-3-methoxy-3-oxo-1-propenyl]phenoxy]-, 2,2-bis[(4-aminophenyl)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



IC ICM C07C229-42  
ICS C07J041-00; C08G073-10; G02F001-1337; C09K019-56

CC 35-4 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 75

ST liq crystal alignment layer display device; **photoreactive**  
diamine polyimide alignment layer

IT Amines, reactions  
(diamines, diarom.; **photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

IT Electrooptical imaging devices  
Light-sensitive materials  
Liquid crystal displays  
Liquid crystals  
Liquid crystals, polymeric  
Optical instruments  
(**photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

IT Polyamic acids  
Polyimides, preparation  
(**photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

IT 653307-14-3P 653307-31-4P 653307-55-2P  
(dehydration; **photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

IT 653306-84-4P 653307-19-8P 653307-81-4P  
(monomer precursor; **photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

IT 439798-60-4, MLC 12000-000  
(nematic; **photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

IT 83540-57-2P, 2,2-Dimethyl-5,5-bis(4-nitrobenzyl)-1,3-dioxane-4,6-dione  
653307-75-6P  
(**photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

IT 653307-88-1P 653307-93-8P 653307-98-3P  
653308-06-6P 653308-15-7P 653308-24-8P  
653308-36-2P 653308-42-0P 653308-50-0P  
653308-55-5P 653308-62-4P 653571-26-7P  
654062-54-1P 654062-55-2P 654062-56-3P 654062-57-4P  
654062-60-9P 654062-61-0P  
(**photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

IT 57-88-5, 5-Cholesten-3 $\beta$ -ol, reactions 100-11-8, 4-Nitrobenzyl  
bromide 141-82-2D, Malonic acid, ester 2009-83-8, 6-Chlorohexanol  
3943-97-3, Methyl 4-hydroxycinnamate 4224-70-8, 6-Bromohexanoic acid  
115974-97-5  
(**photoreactive** diamine precursors for  
**photosensitive** polymer materials with good light stability  
for liquid crystal orientation layers)

IT 653306-91-3P 653307-25-6P 653307-36-9P  
653307-62-1P

(preparation and polymerization; photoreactive diamine precursors for photosensitive polymer materials with good light stability for liquid crystal orientation layers)

- IT 653307-04-1P  
(reaction with Me carboxycinnamate; photoreactive diamine precursors for photosensitive polymer materials with good light stability for liquid crystal orientation layers)
- IT 653307-48-3P  
(reaction with Me hydroxycinnamate; photoreactive diamine precursors for photosensitive polymer materials with good light stability for liquid crystal orientation layers)
- IT 653307-42-7P  
(reaction with bromohexanoic acid; photoreactive diamine precursors for photosensitive polymer materials with good light stability for liquid crystal orientation layers)
- IT 653306-99-1P 653307-69-8P  
(reaction with chlorohexanol; photoreactive diamine precursors for photosensitive polymer materials with good light stability for liquid crystal orientation layers)
- IT 117076-44-5  
(reaction with malonic acid ester; photoreactive diamine precursors for photosensitive polymer materials with good light stability for liquid crystal orientation layers)
- IT 2033-24-1, Meldrum's acid  
(reaction with nitrobenzyl bromide; photoreactive diamine precursors for photosensitive polymer materials with good light stability for liquid crystal orientation layers)
- IT 121-33-5, Vanillin  
(reaction with pentyl bromide; photoreactive diamine precursors for photosensitive polymer materials with good light stability for liquid crystal orientation layers)
- IT 110-53-2, n-Pentyl bromide  
(reaction with vanillin; photoreactive diamine precursors for photosensitive polymer materials with good light stability for liquid crystal orientation layers)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:994879 HCAPLUS

DOCUMENT NUMBER: 141:124148

TITLE: Preparation of high-strength polyurethane elastic prepolymer and its application

INVENTOR(S): Cong, Shufeng; Yu, Luru

PATENT ASSIGNEE(S): Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 11 pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1392171	A	20030122	CN 2002-137963	20020712
			<--	
PRIORITY APPLN. INFO.:			CN 2002-137963	20020712
			<--	

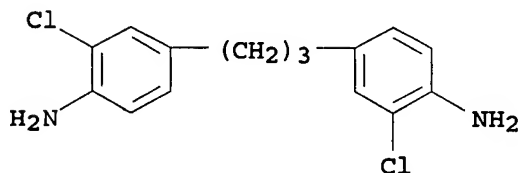
ED Entered STN: 22 Dec 2003

AB The raw material is composed of 2,4-tolylene diisocyanate 0- 19.0, 4,4'-methylenediphenylene diisocyanate 17.0-51.0, polyether glycol 46.0-61.0, tribasic alc. (such as tri(hydroxymethyl)propane or polyether tribasic alc.) 2.0-13.0, and H<sub>3</sub>PO<sub>4</sub> as stabilizing agent 0.01-0.05%. The process comprises dewatering polyol at 80-120° and 0.4- 6 MPa or via refluxing with xylene as entrainer to water content ≤0.05%, adding 1/2-2/3 of stabilizing agent and diisocyanate at <50°, stirring at 60-90° to NCO content of 5-10.5%, cooling to ≤50°, adding the other part of stabilizing agent, filtering, and packaging. The prepolymer may be used as one component of double- component paving material. The double-component paving material is composed of 1 part prepolymer and 2-4 part component B. The component B is composed of polyether polyol 19.8-43.1, crosslinking agent (such as 4,4'-methylenebis(2-chloroaniline), 3,3'-methylenebis(6-aminobenzoic acid Me ester), bis(3-amino-4- chlorophenyl) carbonate, 3-(3-amino-4-chlorophenyl)propanoic acid 3-amino-4-chlorophenyl ester, or 4,4'-trimethylenebis(2- chloroaniline)) 1.4-5.4, filler 37.9-41.9, pigment 2.3-2.7, plasticizer (such as di-Bu phthalate, dioctyl phthalate, or chlorinated paraffin wax) 14.7-30.0, and adjuvant (such as UV screener, antioxidant, and antiseptic agent) 0.2-0.6%.

IT 724751-44-4DP, polyurea derivative  
(crosslinked; preparation of high-strength polyurethane elastic prepolymer and its application)

RN 724751-44-4 HCAPLUS

CN Benzenamine, 4,4'-(1,3-propanediyl)bis[2-chloro- (9CI) (CA INDEX NAME)



IC ICM C08G018-10  
ICS C09D175-04

CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 39

IT 101-14-4DP, Benzenamine, 4,4'-methylenebis[2-chloro-], polyurea derivative  
29545-01-5DP, polyurea derivative 31383-81-0DP, polyurea derivative  
724751-42-2DP, polyurea derivative 724751-44-4DP, polyurea derivative  
(crosslinked; preparation of high-strength polyurethane elastic prepolymer and its application)

L26 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:594853 HCAPLUS

DOCUMENT NUMBER: 137:154933

TITLE: Heterocyclic compounds and cerebral function improvers containing them as active ingredients

INVENTOR(S): Kawashima, Seiichiro; Matsuno, Toshiyuki; Fukuda, Naoki; Saitoh, Kenichi; Yamaguchi, Yoshimasa; Higashi, Masaya

PATENT ASSIGNEE(S): Zenyaku Kogyo Kabushiki Kaisha, Japan

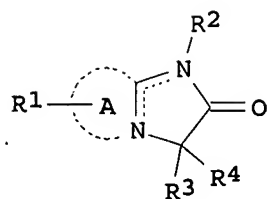
SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIXXD2

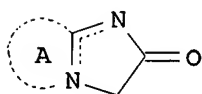
DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002060907	A1	20020808	WO 2002-JP694	20020130
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2436589	A1	20020808	CA 2002-2436589	20020130
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AU 2002230098	A1	20020812	AU 2002-230098	20020130
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EP 1357124	A1	20031029	EP 2002-711234	20020130
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1531540	A	20040922	CN 2002-807625	20020130
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AT 301125	T	20050815	AT 2002-711234	20020130
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ES 2247304	T3	20060301	ES 2002-2711234	20020130
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US 2004048879	A1	20040311	US 2003-466321	20030729
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US 2006205742	A1	20060914	US 2006-433416	20060515
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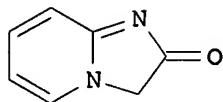
OTHER SOURCE(S): MARPAT 137:154933  
 ED Entered STN: 09 Aug 2002  
 GI



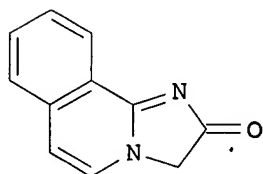
I



II



III



IV

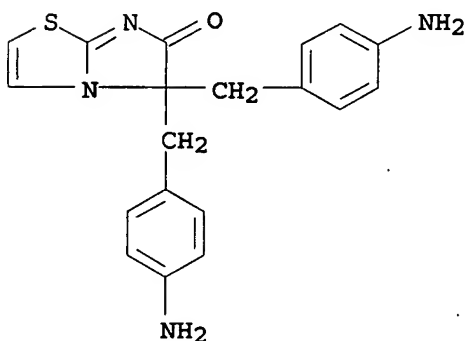
AB Heterocyclic compds. I [R1 = H, C1-6 alkyl, or benzyloxy; R2 = Me or nil; R3 = H, C1-6 alkyl, C2-6 alkenyl, C3-8 cycloalkyl, CH2R5; R5 = Ph (which may be substituted with C1-6 alkyl, halogeno, or cyano group), thienyl; R4 = C1-6 alkyl, C2-6 alkenyl, C3-8 cycloalkyl, or CH2R6; R6 = Ph (which may be substituted with C1-6 alkyl, halogeno, or cyano groups), naphthyl, thienyl; alternatively R3 and R4 may be united] bearing skeleton II, such as III, IV, etc., are prepared These compds., such as 5,5-bis(4-fluorobenzyl)imidazo[2,1-b]thiazole-6(5H)-one, are useful for treatment of Alzheimer's disease, Parkinson's disease, etc.

IT 445400-15-7P, 5,5-Bis(4-aminobenzyl)imidazo[2,1-b]thiazole-6(5H)-one

(heterocyclic compds. for cerebral function improvers)

RN 445400-15-7 HCAPLUS

CN Imidazo[2,1-b]thiazol-6(5H)-one, 5,5-bis[(4-aminophenyl)methyl]- (9CI)  
(CA INDEX NAME)



IC ICM C07D513-04

ICS C07D487-04; C07D471-04; C07D513-20; C07D233-70; A61K031-429;  
A61K031-519; A61K031-437; A61K031-4745; A61K031-4166

CC 28-9 (Heterocyclic Compounds (More Than One Hetero Atom))  
Section cross-reference(s): 63

IT 445400-11-3P, 5,5-Bis(4-fluorobenzyl)imidazo[2,1-b]thiazole-6(5H)-one

445400-12-4P, 5,5-Dibenzylimidazo[2,1-b]thiazole-6(5H)-one

445400-13-5P, 3,3-Dibenzylimidazo[1,2-a]pyrimidine-2(3H)-one

445400-14-6P, 5,5-Bis(4-methylbenzyl)imidazo[2,1-b]thiazole-6(5H)-one

445400-15-7P, 5,5-Bis(4-aminobenzyl)imidazo[2,1-b]thiazole-

6(5H)-one 445400-16-8P, 5,5-Dibenzyl-2-methylimidazo[2,1-b]thiazole-  
 6(5H)-one 445400-17-9P, 5,5-Bis(2-thienylmethyl)imidazo[2,1-  
 b]thiazole-6(5H)-one 445400-18-0P, 3,3-Bis(2-  
 thienylmethyl)imidazo[1,2-a]pyrimidine-2(3H)-one 445400-19-1P,  
 5,5-Dibenzyl-2,3-dihydroimidazo[2,1-b]thiazole-6(5H)-one  
 445400-20-4P 445400-21-5P 445400-22-6P, 3,3-Dicyclohexyl-5,6,7,8-  
 tetrahydroimidazo[1,2-a]pyridine-2(3H)-one 445400-23-7P,  
 3,3-Dibutyl-5,6,7,8-tetrahydroimidazo[1,2-a]pyridine-2(3H)-one  
 445400-24-8P, 3-Benzylimidazo[1,2-a]pyridine-2(3H)-one 445400-25-9P,  
 3,3-Dipropyl-5,6,7,8-tetrahydroimidazo[1,2-a]pyridine-2(3H)-one  
 445400-26-0P, 4,4-Dibenzyl-1-methyl-5-oxo-4,5-dihydroimidazole  
 445400-27-1P, 3,3-Di(2-butenyl)imidazo[1,2-a]pyridine-2(3H)-one  
 445400-28-2P 445400-29-3P 445400-30-6P 445400-31-7P  
 445400-32-8P 445400-33-9P 445400-34-0P 445400-35-1P  
 445400-36-2P 445400-37-3P 445400-38-4P 445400-39-5P  
 445400-40-8P 445400-41-9P 445400-42-0P

(heterocyclic compds. for cerebral function improvers)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L26 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:586133 HCAPLUS

DOCUMENT NUMBER: 137:301256

TITLE: Electrosynthesis of dibenzonaphthyridine  
 derivatives from 2,2-bis(2-nitrobenzyl)-2-  
 substituted-acetonitriles

AUTHOR(S): Jan, Thierry; Dupas, Beatrice; Floner, Didier;  
 Moinet, Claude

CORPORATE SOURCE: Campus de Beaulieu, Institut de Chimie de Rennes,  
 Laboratoire d'Electrochimie et Organometalliques,  
 Universite de Rennes 1, UMR CNRS 6509, Rennes,  
 35042, Fr.

SOURCE: Tetrahedron Letters (2002), 43(34),  
 5949-5952

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 07 Aug 2002

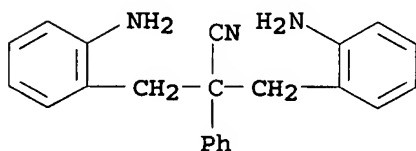
AB An indirect electrochem. procedure involving an ex-cell two-phase  
 process is proposed to produce dibenzonaphthyridine derivs. from  
 2,2-bis(2-nitrobenzyl)-2-substituted-acetonitriles in dichloromethane.  
 The selective reduction of both nitro groups into amino groups using  
 Cp2Ti2 + in aqueous acidic medium avoids a cyclization of hydroxylamine  
 intermediates as observed by direct electrolysis.

IT 470448-85-2P

(preparation in electrochem. reductive cyclization of  
 bis(nitrobenzyl)-substituted acetonitriles)

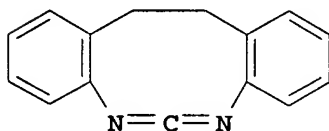
RN 470448-85-2 HCAPLUS

CN Benzenepropanenitrile, 2-amino- $\alpha$ -[(2-aminophenyl)methyl]- $\alpha$ -  
 phenyl- (9CI) (CA INDEX NAME)



CC 72-4 (Electrochemistry)  
 Section cross-reference(s): 22, 27, 28  
 IT 470448-85-2P  
 (preparation in electrochem. reductive cyclization of  
 bis(nitrobenzyl)-substituted acetonitriles)  
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

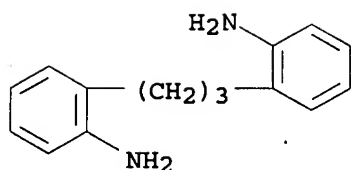
L26 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1996:342082 HCAPLUS  
 DOCUMENT NUMBER: 125:85904  
 TITLE: New Models for the Study of the Racemization  
 Mechanism of Carbodiimides. Synthesis and  
 Structure (X-ray Crystallography and <sup>1</sup>H NMR) of  
 Cyclic Carbodiimides  
 AUTHOR(S): Molina, Pedro; Alajarin, Mateo; Sanchez-Andrada,  
 Pilar; Carrio, Juan Server; Martinez-Ripoll,  
 Martin; Anderson, J. Edgar; Jimeno, Maria Luisa;  
 Elguero, Jose  
 CORPORATE SOURCE: Facultad de Quimica, Universidad de Murcia,  
 Murcia, E-30071, Spain  
 SOURCE: Journal of Organic Chemistry (1996),  
 61(13), 4289-4299  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 125:85904  
 ED Entered STN: 14 Jun 1996  
 GI



AB The crystal and mol. structure of carbodiimides 2 (5,6,18,19-tetradehydro-5,12,13,18,25,26-hexahydrotetrabenzo[d,h,m,q][1,3,10,12]tetraazacyclooctadecine) and 3 (8,10,22,24-tetraazapentacyclo[23.3.1.13,7.111,15.117,21]dotriaconta-1(29),3,5,7(32),8,9,11,13,15(31),17,19,21(30),22,23,25,27-hexadecaene) have been determined. The activation barriers for the racemization of carbodiimides I (6,7-dihydrodibenzo[d,h][1,3]diazonine), 2, and 3 have been determined. While I presents a relatively high barrier (17.4 kcal mol<sup>-1</sup>), 2 and 3 have very low activation barriers (between 5 and 7 kcal mol<sup>-1</sup>). We tentatively conclude that open-chain and large-ring carbodiimides racemize by nitrogen inversion or trans-rotation while medium-size cyclic carbodiimides racemize by cis-rotation.

IT 21598-82-3P  
 (preparation, crystallog., and <sup>1</sup>H NMR of cyclic carbodiimides and models for racemization mechanism of carbodiimides)

RN 21598-82-3 HCAPLUS  
 CN Benzenamine, 2,2'-(1,3-propanediyl)bis- (CA INDEX NAME)



CC 22-3 (Physical Organic Chemistry)

Section cross-reference(s): 34, 75

IT 552-89-6P 21598-82-3P 28096-87-9P 42467-39-0P  
 42467-40-3P 116668-54-3P 178265-01-5P 178265-02-6P  
 178265-03-7P 178265-09-3P 178265-10-6P 178265-11-7P  
 178265-12-8P 178265-13-9P 178265-14-0P 178265-15-1P  
 178265-16-2P 178265-17-3P 178265-18-4P 178265-19-5P  
 178265-20-8P 178265-21-9P 178265-22-0P 178265-23-1P  
 178265-24-2P 178265-25-3P

(preparation, crystallog., and 1H NMR of cyclic carbodiimides and models for racemization mechanism of carbodiimides)

L26 ANSWER 8 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:66082 HCAPLUS

DOCUMENT NUMBER: 122:31472

TITLE: Synthesis of the first lariat crown-formazan, prototype of a new series of podandocoronands

AUTHOR(S): Katrizky, Alan R.; Belyakov, Sergei A.; Durst, H. Dupont

CORPORATE SOURCE: Center for Heterocyclic Compounds, University of Florida, Gainesville, FL, 32611-7200, USA

SOURCE: Tetrahedron Letters (1994), 35(35), 6465-8

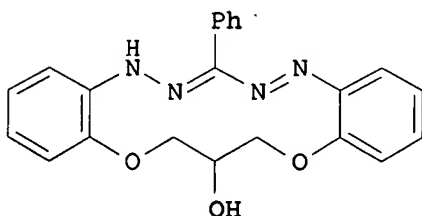
CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 08 Nov 1994

GI



I

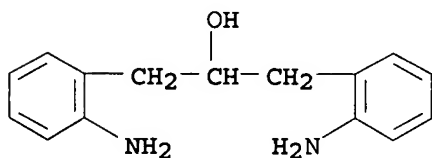
AB Crown formazan (I) with a pendant hydroxy group [i.e., 16,17-dihydro-7-phenyl-5H,15H-Dibenzo[b,i][1,11,4,5,7,8]dioxatetraazacyclotetradecin-13-ol] was obtained by a phase-transfer assisted azo-coupling reaction. Acylation of the hydroxy group of I with 2-chloroacetyl chloride followed by reaction with dimethylamine afforded 13-[2-(N,N-dimethylamino)acetoxy]-16,17-phenyl-5H,15-dibenzo[b,i][1,11,4,5,7,8]dioxatetraazacyclotetradecyne, the first lariat crown formazan containing a strong donor group as a supporting ligand at the end of the side arm.

IT 159680-10-1P

(preparation of crown formazan dibenzo[b,i][1,11,4,5,7,8]dioxatetraazacy  
clotetradecin-13-ol)

RN 159680-10-1 HCAPLUS

CN Benzeneethanol, 2-amino- $\alpha$ -[(2-aminophenyl)methyl]- (9CI) (CA  
INDEX NAME)



CC 28-20 (Heterocyclic Compounds (More Than One Hetero Atom))

IT 159680-04-3P 159680-06-5P 159680-07-6P 159680-09-8P,

1,3-Bis(2-nitrophenyl)-2-propanol 159680-10-1P

(preparation of crown formazan dibenzo[b,i][1,11,4,5,7,8]dioxatetraazacy  
clotetradecin-13-ol)

L26 ANSWER 9 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:650630 HCAPLUS

DOCUMENT NUMBER: 119:250630

TITLE: Structure-property relationships in polymerization  
of monomeric reactant type polyimide resins. 2.  
New polyimides incorporating alkylenedianilines

AUTHOR(S): Woodfine, Barry; Soutar, Ian; Preston, Peter N.;  
Jigajinni, Veerappa B.; Stewart, Nevin J.; Hay,  
John N.

CORPORATE SOURCE: Sch. Phys. Mater., Lancaster Univ., Lancaster, LA1  
4YA, UK

SOURCE: Macromolecules (1993), 26(24), 6330-4

CODEN: MAMOBX; ISSN: 0024-9297

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 11 Dec 1993

AB New polyimide thermoset resins have been synthesized incorporating  
alkylenedianilines as the diamine components. The variations in  
intrinsic chain mobility resultant upon differences in the alkylene  
chain lengths produced cured resins which exhibited a wide range of  
glass transition values (290-386°). The structural variants of  
diamine within the resin formulations also effected lowering of the  
apparent onset temps. for crosslinking, during cure, as the alkylene  
spacer units were extended. All resins exhibited good thermal and  
thermooxidative stabilities, with temps. for 10% weight loss at  
450-500°.

IT 151197-66-9P

(crosslinked, preparation and thermal properties of)

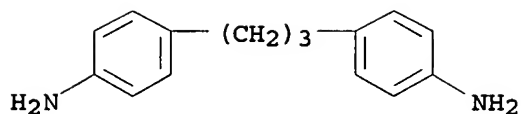
RN 151197-66-9 HCAPLUS

CN 4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro-,  
(3a $\alpha$ ,4 $\alpha$ ,7 $\alpha$ ,7a $\alpha$ )-, polymer with  
5,5'-carbonylbis[1,3-isobenzofurandione] and 4,4'-(1,3-  
propanediyl)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 2767-73-9

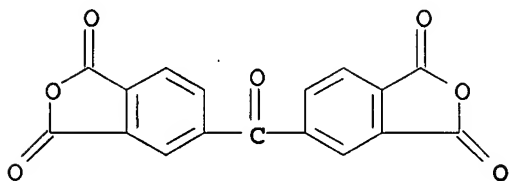
CMF C15 H18 N2



CM 2

CRN 2421-28-5

CMF C17 H6 O7

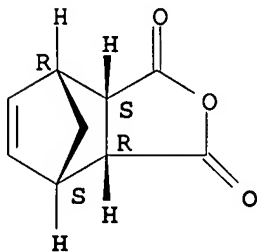


CM 3

CRN 129-64-6

CMF C9 H8 O3

Relative stereochemistry.



CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36

IT 34406-24-1P 151197-64-7P 151197-65-8P 151197-66-9P  
151197-67-0P

(crosslinked, preparation and thermal properties of)

L26 ANSWER 10 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:534909 HCAPLUS

DOCUMENT NUMBER: 119:134909

TITLE: Synthesis and applications of phosphonoacetic derivatives

AUTHOR(S): Davini, Enrico; Di Leo, Cristina; Norelli, Francesco; Zappelli, Piergiorgio

CORPORATE SOURCE: Eniricerche SpA, Monterotondo Scalo, Italy

SOURCE: Journal of Biotechnology (1993),  
28(2-3), 321-38

CODEN: JBITD4; ISSN: 0168-1656

DOCUMENT TYPE: Journal

LANGUAGE: English

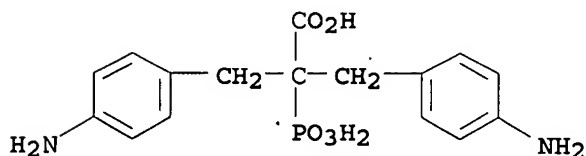
ED Entered STN: 02 Oct 1993

AB The synthesis of new phosphonoacetic acid derivs. and their applications in fields of biotechnol. interest are discussed. Phosphonoacetic acids are competitive inhibitors of alkaline phosphatase, an enzyme widely used in diagnostics, as colorimetric detection tool. The phosphonoacetic acid's inhibition activity has been used to obtain an innovative technique for non-radioactive DNA probes detection, the last being based on DNA labeling with the enzyme inhibitor, followed by detection by means of the chromogenic enzyme and substrate. Moreover, a further application of phosphonoacetic acids was found by the preparation of an affinity chromatog. support that has been revealed to be very effective in the purification of alkaline phosphatase. Finally, phosphonoacetic acid derivs. have been tested also for their antiviral activity. Some of them, examined in preliminary in vitro expts., have been found very active against Herpes simplex virus.

IT 149695-58-9P  
(preparation and virucidal activity of)

RN 149695-58-9 HCAPLUS

CN Benzenepropanoic acid, 4-amino- $\alpha$ -[(4-aminophenyl)methyl]- $\alpha$ -phosphono- (9CI) (CA INDEX NAME)



CC 9-14 (Biochemical Methods)  
Section cross-reference(s): 7, 10, 29

IT 149695-56-7P 149695-57-8P 149695-58-9P  
(preparation and virucidal activity of)

L26 ANSWER 11 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:149540 HCAPLUS

DOCUMENT NUMBER: 118:149540

TITLE: Polyimide and polyimide-polyurethane coatings, and their solderable electrically insulated wires and flyback transformers therefrom

INVENTOR(S): Tajima, Tetsuo; Sudo, Ryoichi; Obata, Makoto; Shoji, Fusaji; Kitatani, Kimikatsu; Oikawa, Hiroshige

PATENT ASSIGNEE(S): Hitachi, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

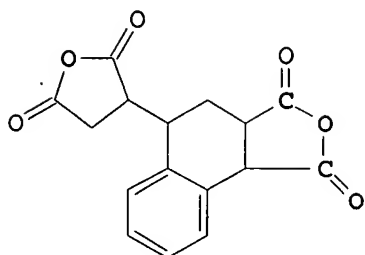
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 04212206	A	19920803	JP 1991-62316	19910327
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US 5254659	A	19931019	US 1991-675951	19910327
			<--	
PRIORITY APPLN. INFO.:			JP 1990-77309	A1 19900327
			<--	

JP 1990-96428 A1 19900413  
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 JP 1990-233254 A1 19900905  
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 JP 1990-252547 A1 19900920  
 <--

ED Entered STN: 13 Apr 1993  
 GI



AB Title coatings are manufactured by applying solns. containing polyamic acids (A) optionally terminated by hydroxy(ar)alkyl groups and solns. containing products of the hydroxy(ar)alkyl group-terminated polyamic acids and diisocyanates, resp., onto the wires and thermally imidating. Thus, a solution containing p-aminobenzyl alc.-terminated 2,2-bis[4-(4-aminophenoxy)phenyl]propane-dianhydride I polyamic acid was spread on a Cu wire and baked to give a 20- $\mu$ m elec. insulating film showing softening temperature (500-g load) 352° and soldering ability 9 s at 390° or 5 s at 450°.

IT 146323-34-4DP, reaction products with aminobenzyl alc.  
 146323-39-9DP, reaction products with aminobenzyl alc.  
 146323-40-2DP, reaction products with aminobenzyl alc.  
 146323-40-2P 146545-87-1P

(manufacture of, as heat-resistant elec.-insulating coatings)

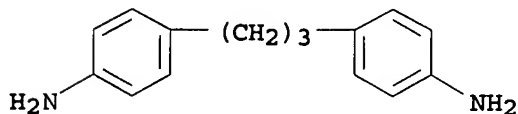
RN 146323-34-4 HCAPLUS

CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with  
 4,4'-(1,3-propanediyl)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 2767-73-9

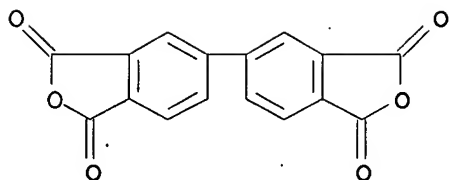
CMF C15 H18 N2



CM 2

CRN 2420-87-3

CMF C16 H6 O6



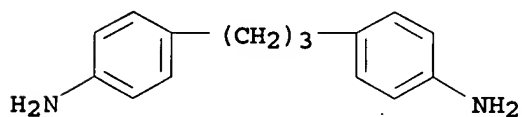
RN 146323-39-9 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-(1-methylethylidene)bis-, polymer with 4,4'-(1,3-propanediyl)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 2767-73-9

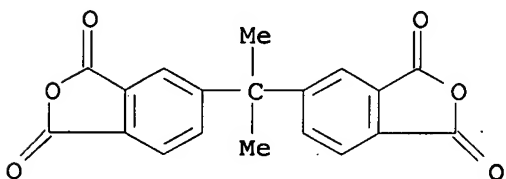
CMF C15 H18 N2



CM 2

CRN 1779-17-5

CMF C19 H12 O6



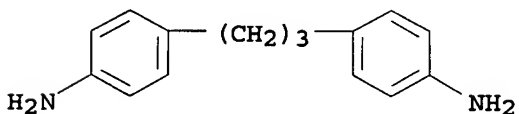
RN 146323-40-2 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with 4,4'-(1,3-propanediyl)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 2767-73-9

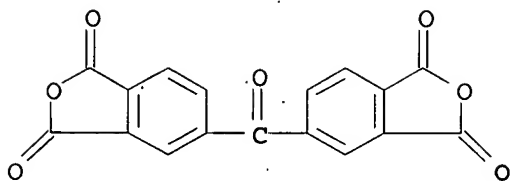
CMF C15 H18 N2



CM 2

CRN 2421-28-5

CMF C17 H6 O7



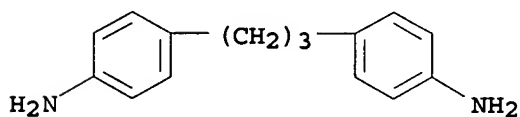
RN 146323-40-2 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with  
4,4'-(1,3-propanediyl)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 2767-73-9

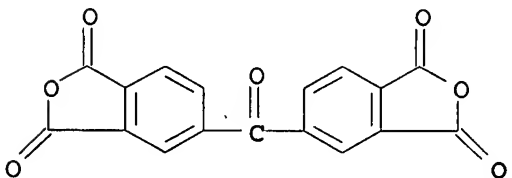
CMF C15 H18 N2



CM 2

CRN 2421-28-5

CMF C17 H6 O7



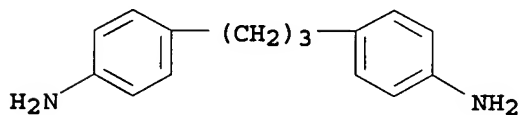
RN 146545-87-1 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with  
4-(aminomethyl)phenol, 1,1'-methylenebis[4-isocyanatobenzene] and  
4,4'-(1,3-propanediyl)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 2767-73-9

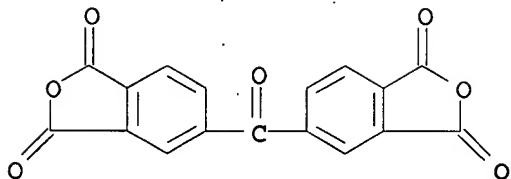
CMF C15 H18 N2



CM 2

CRN 2421-28-5

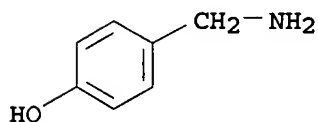
CMF C17 H6 O7



CM 3

CRN 696-60-6

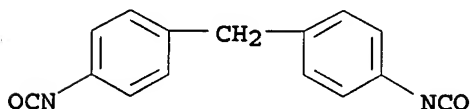
CMF C7 H9 N O



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



IC ICM H01B003-30

ICS C08G018-60; C08G073-10; C09D175-00; C09D179-08; H01B007-02;

H01B007-34; H01B013-16; H01F019-04

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 76

IT 623-04-1DP, p-Aminobenzyl alcohol, polyimide derivs. 28347-97-9P  
 32824-21-8DP, reaction products with aminobenzyl alc. 36496-83-0P  
 38547-25-0DP, reaction products with aminobenzyl alc. 56778-02-0DP,  
 reaction products with aminobenzyl alc. 87516-93-6DP, reaction  
 products with aminobenzyl alc. 131495-60-8P 134770-29-9DP,  
 reaction products with aminobenzyl alc. 146323-25-3DP, reaction  
 products with aminobenzyl alc. 146323-25-3P 146323-26-4DP,  
 reaction products with aminobenzyl alc. 146323-27-5DP, reaction  
 products with aminobenzyl alc. 146323-29-7DP, reaction products with  
 aminobenzyl alc. 146323-31-1DP, reaction products with aminobenzyl  
 alc. 146323-32-2DP, reaction products with aminobenzyl alc.  
 146323-32-2P 146323-33-3DP, reaction products with aminobenzyl alc.  
 146323-33-3P 146323-34-4DP, reaction products with  
 aminobenzyl alc. 146323-35-5DP, reaction products with aminobenzyl  
 alc. 146323-36-6DP, reaction products with aminobenzyl alc.

146323-37-7DP, reaction products with aminobenzyl alc.  
146323-38-8DP, reaction products with aminobenzyl alc.  
146323-39-9DP, reaction products with aminobenzyl alc.  
146323-40-2DP, reaction products with aminobenzyl alc.  
146323-40-2P 146323-41-3DP, reaction products with  
aminobenzyl alc. 146343-42-2DP, reaction products with aminobenzyl  
alc. 146343-42-2P 146343-43-3DP, reaction products with  
aminobenzyl alc. 146343-43-3P 146343-44-4DP, reaction products  
with aminobenzyl alc. 146343-46-6DP, reaction products with  
aminobenzyl alc. 146393-73-9P 146393-74-0P 146393-75-1P  
146393-76-2P 146393-77-3P 146393-78-4P 146393-79-5P  
146393-80-8P 146393-81-9P 146393-82-0P 146393-83-1P  
146393-84-2P 146393-85-3P 146393-86-4P 146393-87-5P  
146393-88-6P 146393-89-7P 146393-90-0P 146393-91-1P  
146393-92-2P 146393-93-3P 146393-94-4P 146393-95-5P  
146401-75-4P 146401-76-5P 146401-77-6P 146401-78-7P  
146401-79-8P 146401-80-1P 146429-01-8P 146473-49-6P  
146526-94-5P 146526-95-6P 146526-96-7P 146526-97-8P  
146526-98-9P 146526-99-0P 146527-00-6P 146527-01-7P  
146545-87-1P

(manufacture of, as heat-resistant elec.-insulating coatings)

L26 ANSWER 12 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:44063 HCAPLUS

DOCUMENT NUMBER: 114:44063

TITLE: Effect of monomer structure on the cure of PMR  
polyimides

AUTHOR(S): Preston, P. N.; Soutar, I.; Woodfine, B.; Hay, J.  
N.; Stewart, N. J.

CORPORATE SOURCE: Chem. Dep., Heriot-Watt Univ., Edinburgh, EH14  
4AS, UK

SOURCE: High Performance Polymers (1990), 2(1),  
47-56

CODEN: HPPOEX; ISSN: 0954-0083

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 09 Feb 1991

AB Investigation of the influence that monomer structure, (diamines and  
dianhydrides [MeO2(C6H3)CO2H]2X), plays in determination of the nature of  
thermoset PMR polyimides revealed new information about the  
crosslinking reaction profile and resultant resin properties.  
Replacement of dianhydride (X = CO) by dianhydride (X = O) gave  
reduced resin glass temperature, Tg, values. Synthesis of a new series of  
alkylene dianilines, with increasing flexibility within the homologous  
series, evinced lowered crosslinking onset temps. and Tg transitions.  
Increasing degrees of meta catenation in extended diamines also  
resulted in lowered Tg values. Recycling behavior of polyimides were  
also discussed.

IT 131494-85-4 131494-86-5  
(cure of, properties in relation to)

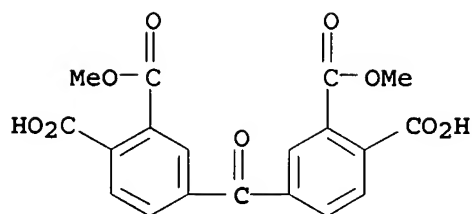
RN 131494-85-4 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4,4'-carbonylbis-, 2,2'-dimethyl ester,  
polymer with 4,4'-(1,3-propanediyl)bis[benzenamine] (9CI) (CA INDEX  
NAME)

CM 1

CRN 47587-11-1

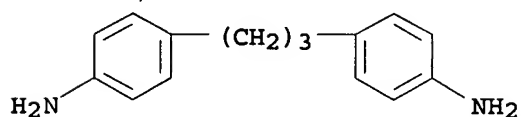
CMF C19 H14 O9



CM 2

CRN 2767-73-9

CMF C15 H18 N2



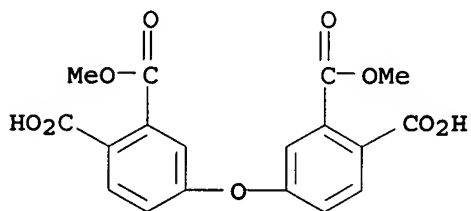
RN 131494-86-5 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4,4'-oxybis-, 2,2'-dimethyl ester,  
polymer with 4,4'-(1,3-propanediyl)bis[benzenamine] (9CI) (CA INDEX  
NAME)

CM 1

CRN 131494-79-6

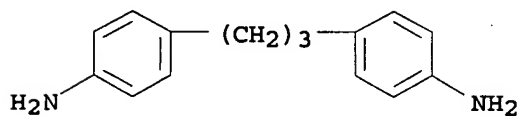
CMF C18 H14 O9



CM 2

CRN 2767-73-9

CMF C15 H18 N2



CC 37-4 (Plastics Manufacture and Processing)

IT 24991-11-5 25735-00-6 25735-01-7 26615-47-4 26913-87-1

26951-75-7 27614-14-8 34871-01-7 54571-75-4 54571-76-5  
 56585-71-8 69572-56-1 69572-62-9 72344-67-3 72344-77-5  
 74970-13-1 76309-08-5 91993-29-2 98847-60-0 101526-08-3  
 105117-50-8 105117-51-9 111966-59-7 127432-99-9 131494-78-5  
 131494-80-9 131494-81-0 131494-82-1 131494-83-2 131494-84-3  
 131494-85-4 131494-86-5 131494-87-6 131494-88-7  
 131494-90-1 131494-91-2 131494-92-3 131494-93-4 131494-94-5  
 131494-95-6 131495-59-5 131495-60-8 131495-61-9 131495-62-0  
 131495-63-1 131519-31-8 131519-32-9 131519-33-0 131621-17-5  
 131621-18-6 131621-19-7 131621-20-0 131621-21-1 131621-22-2  
 131621-23-3 131621-24-4 131621-25-5 131621-26-6 131621-27-7  
 131621-28-8 131621-29-9 131621-30-2 131621-31-3 131621-32-4  
 (cure of, properties in relation to)

L26 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1986:69735 HCAPLUS  
 DOCUMENT NUMBER: 104:69735  
 TITLE: Polyimide compositions and foams  
 INVENTOR(S): Gagliani, John; Long, John V.  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S., 4 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4546115	A	19851008	US 1985-705129	19850225
			<--	
US 4556682	A	19851203	US 1985-737083	19850523
			<--	
EP 192869	A2	19860903	EP 1985-303940	19850604
			<--	
EP 192869	A3	19880302		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 61195126	A	19860829	JP 1985-121611	19850606
			<--	
PRIORITY APPLN. INFO.:			US 1985-705129	A3 19850225
			<--	

ED Entered STN: 08 Mar 1986

AB A polyimide precursor composition is prepared by esterifying an aromatic dianhydride with an esterifying solvent to form a half ester and adding a diamine mixture containing  $\geq 1$  diamine 4-H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>(CH<sub>2</sub>)<sub>x</sub>C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>-4 (x = 1-20) and  $\geq 1$  diamine H<sub>2</sub>N(CH<sub>2</sub>)<sub>y</sub>NH<sub>2</sub> (y = 2-12). A polyimide foam is prepared by drying the precursor composition, pulverizing to a powder, and heating the powder to cause melting, foaming, and polymerization. The foam is resilient, nonfriable, and flame resistant. Thus, 322.2 g 3,3',4,4'-benzophenonetetracarboxylic acid dianhydride was dissolved in approx. 400 g iso-PrOH, refluxed to give a clear solution, treated at .apprx.50° with .apprx.148.7 g of 4,4'-diaminodiphenylmethane and .apprx.29 g H<sub>2</sub>N(CH<sub>2</sub>)<sub>6</sub>NH<sub>2</sub>, heated at .apprx.55° until clear, dried at .apprx.82°, pulverized to give 80-mesh powder, and heated 1 h at .apprx.288° to prepare a foam (d. 12.8 kg/m<sup>3</sup>) which did not burn or give off toxic gas during exposure to a flame and was nonfriable.

IT 100328-46-9P 100339-07-9P

(preparation of cellular, nonfriable, fire-resistant, resilient)

RN 100328-46-9 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with  
1,12-dodecanediamine and 4,4'-(1,3-propanediyl)bis[benzenamine] (9CI)  
(CA INDEX NAME)

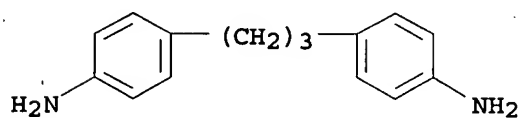
CM 1

CRN 2783-17-7  
CMF C12 H28 N2

$\text{H}_2\text{N}-(\text{CH}_2)_{12}-\text{NH}_2$

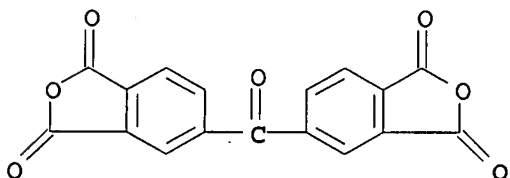
CM 2

CRN 2767-73-9  
CMF C15 H18 N2



CM 3

CRN 2421-28-5  
CMF C17 H6 O7

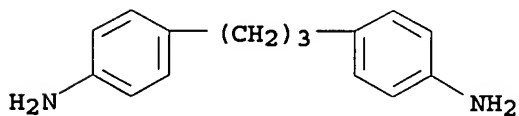


RN 100339-07-9 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with  
1,2-ethanediamine and 4,4'-(1,3-propanediyl)bis[benzenamine] (9CI)  
(CA INDEX NAME)

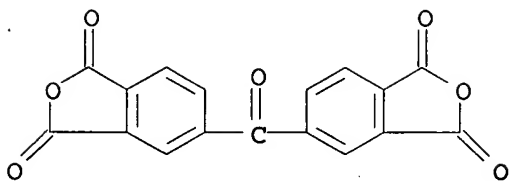
CM 1

CRN 2767-73-9  
CMF C15 H18 N2



CM 2

CRN 2421-28-5  
CMF C17 H6 O7



CM 3

CRN 107-15-3  
CMF C2 H8 N2

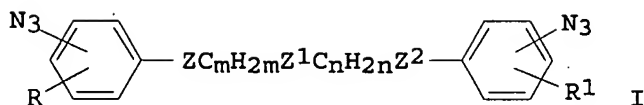
H<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-NH<sub>2</sub>

IC ICM C08J009-02  
INCL 521077000  
CC 37-6 (Plastics Manufacture and Processing)  
IT 26873-92-7P 29252-15-1P 100328-46-9P 100328-47-0P  
100328-48-1P 100339-06-8P 100339-07-9P  
(preparation of cellular, nonfriable, fire-resistant, resilient)

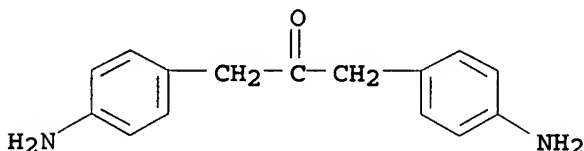
L26 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1984:501235 HCAPLUS  
DOCUMENT NUMBER: 101:101235  
TITLE: Bisazide compounds, **photosensitive**  
compositions containing them and their use in  
preparing relief structures  
INVENTOR(S): Haas, Guenther; Neisius, Karl Heinz  
PATENT ASSIGNEE(S): Merck Patent G.m.b.H. , Fed. Rep. Ger.  
SOURCE: Ger. Offen., 41 pp.  
CODEN: GWXXBX  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 3234301	A1	19840322	DE 1982-3234301	19820916
			<--	
EP 103800	A2	19840328	EP 1983-108727	19830905
			<--	
EP 103800	A3	19860129		
R: DE, FR, GB, NL				
JP 59073556	A	19840425	JP 1983-169530	19830916
			<--	
PRIORITY APPLN. INFO.:			DE 1982-3234301	A 19820916
			<--	

OTHER SOURCE(S): MARPAT 101:101235  
ED Entered STN: 15 Sep 1984  
GI



- AB Bisazides of the formula I (R, R1 = H, halogen, or C1-6 alkyl; Z, Z2 = O, S, SO2, NR2, or a bond where R2 = H or C1-6 alkyl; Z1 = O, S, SO, NR2, 2-oxo-1,3-cyclopentylene, 2-oxo- or 5-alkyl-1,3-cyclohexylene, or a bond; R2 = H, halogen, or C1-6 alkyl; m, n = 1-8; and m + n ≤ 12) having a high sensitivity to UV light are useful as the **photosensitive** component of neg.-working UV-sensitive compns. for the **photolithog.** production of relief structures. Thus, a solution containing partially cyclized cis-1,4-polyisoprene 10, 1,2-bis(4-azidophenoxy)ethane 0.2, and xylene 100 g was coated on a surface oxidized Si plate and dried to give a 1µm thick layer. This plate was then exposed to far UV light (200-300 nm) through a Cr mask under a N2 atmosphere and developed with a 1:1 hexane-xylene solution to give a relief image having good adhesion, outstanding etch resistance, and a high contrast. The resolving limit was from 0.5 to 2 µm.
- IT 91707-43-6P  
(preparation and reaction of tetrazotized, with sodium azide)
- RN 91707-43-6 HCAPLUS
- CN 2-Propanone, 1,3-bis(4-aminophenyl)- (9CI) (CA INDEX NAME)



- IC C07C117-00; C07C149-32; G03F007-08; G03C001-72
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST bisazide neg working **photoimaging** compn; **photoresist**  
neg working bisazide
- IT Phenolic resins, uses and miscellaneous  
Rubber, cyclized  
Rubber, natural, uses and miscellaneous  
(**photoresist** compns. containing bisazides and, neg.-working)
- IT Azides  
(bis-, neg.-working **photoresist** compns. containing)
- IT Rubber, isoprene, uses and miscellaneous  
(cyclized, **photoresist** compns. containing bisazides and, neg.-working)
- IT **Photoimaging** compositions and processes  
(neg.-working, containing bisazides)
- IT Resists  
(**photo-**, neg.-working, containing bisazides)
- IT 9003-31-0D, cyclized  
(of cis-1,4 configuration, **photoresist** compns. containing bisazides and, neg.-working)
- IT 9003-17-2D, cyclized 9010-98-4 9016-83-5 91733-48-1 91733-49-2  
(**photoresist** compns. containing bisazides and, neg.-working)

IT 91707-38-9  
(photoresist compns. containing butylphenol-cresol-formaldehyde resin and, neg.-working)

IT 91707-31-2 91707-32-3  
(photoresist compns. containing cyclized isoprene rubber and, neg.-working)

IT 91730-18-6  
(photoresist compns. containing cyclized natural rubber and, neg.-working)

IT 91707-39-0 91707-40-3  
(photoresist compns. containing cyclized polybutadiene and, neg.-working)

IT 91707-33-4 91707-34-5 91707-35-6 91707-36-7  
(photoresist compns. containing cyclized polyisoprene and, neg.-working)

IT 91707-37-8  
(photoresist compns. containing formaldehyde-cresol resin and, neg.-working)

IT 38201-77-3 91707-27-6 91707-28-7 91707-29-8 91707-30-1  
91730-17-5  
(photoresist compns. containing partially cyclized polyisoprene and, neg.-working)

IT 91707-41-4  
(photoresist compns. containing polychloroprene and, neg.-working)

IT 91707-42-5  
(photoresist compns. containing tert-butylphenol-cresol-formaldehyde resin and, neg.-working)

IT 6052-10-4P 91707-43-6P  
(preparation and reaction of tetrazotized, with sodium azide)

L26 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1984:428104 HCAPLUS

DOCUMENT NUMBER: 101:28104

TITLE: Bis(2,4-diaminophenyl)alkane oxidative hair dye couplers

INVENTOR(S): Rose, David; Lieske, Edgar

PATENT ASSIGNEE(S): Henkel K.-G.a.A., Fed. Rep. Ger.

SOURCE: Ger. Offen., 14 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 3235615	A1	19840329	DE 1982-3235615	19820925
			<--	
US 4629466	A	19861216	US 1983-465666	19830210
			<--	
EP 107027	A1	19840502	EP 1983-109211	19830917
			<--	
EP 107027	B1	19851218		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
AT 16978	T	19860115	AT 1983-109211	19830917
			<--	
JP 59078115	A	19840504	JP 1983-174428	19830922
			<--	
JP 04010444	B	19920225		

PRIORITY APPLN. INFO.:

DE 1982-3235615

A 19820925

&lt;--

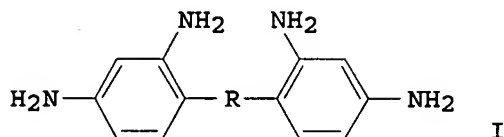
EP 1983-109211

A 19830917

&lt;--

ED Entered STN: 21 Jul 1984

GI



AB I, where R is C3-4 alkylene, especially 1,3-propylene or 1,4-butylene, are couplers for oxidative hair dyes that give blue or green shades that are especially stable to heat, light, and cold waving solns. The dyes contain aromatic or heterocyclic diamines. Thus, 1,3-diphenylpropane [1081-75-0] was nitrated at -5 to -10°, and the resulting 1,3-bis(2',4'-dinitrophenyl)propane [20899-75-6] was hydrogenated with a Pd/C catalyst, acidified with HCl, and 1,3-bis(2',4'-diaminophenyl)propane tetra-HCl [90817-30-4] crystals were isolated by concentration. Oxidative hair dye emulsions containing 0.01 mol each

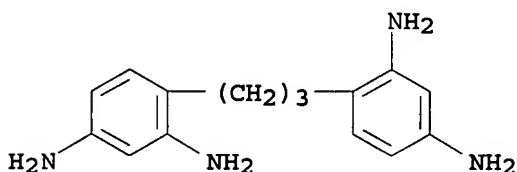
of this coupler and 12 developers were prepared and the colors given to gray hair are tabulated.

IT 90817-30-4P

(preparation of, for oxidative hair dye coupler)

RN 90817-30-4 HCAPLUS

CN 1,3-Benzenediamine, 4,4'-(1,3-propanediyl)bis-, tetrahydrochloride (9CI) (CA INDEX NAME)



●4 HCl

IC A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

Section cross-reference(s): 25

IT 90817-30-4P 90817-31-5P

(preparation of, for oxidative hair dye coupler)

L26 ANSWER 16 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1980:408757 HCAPLUS

DOCUMENT NUMBER: 93:8757

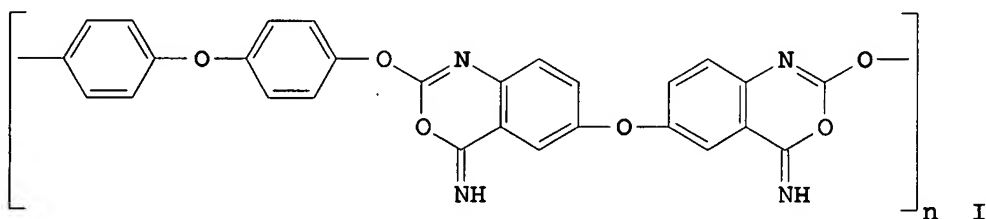
TITLE: Thermostable heterocyclic polymers

INVENTOR(S): Chernikhov, A. Ya.; Yakovlev, M. N.; Lysova, V. B.; Gefter, E. L.; Shmagina, N. N.

PATENT ASSIGNEE(S): USSR

SOURCE: Ger. Offen., 53 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2825413	A1	19800117	DE 1978-2825413	19780609
US 4229560	A	19801021	US 1978-910298	19780530
JP 56002088	B	19810117	JP 1978-72680	19780615
JP 55000716	A	19800107		
PRIORITY APPLN. INFO.:			DE 1978-2825413	A 19780609
ED Entered STN: 12 May 1984				
GI				

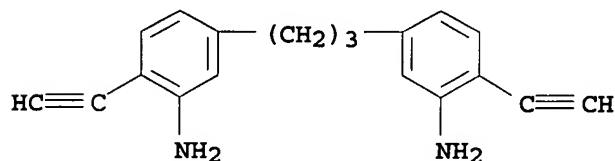


AB Thermostable heterocyclic polymers are prepared by reactions of polysubstituted nitrile or ethynyl compds. with polyfunctional compds. Thus, 3.0 g 3,3'-dicyano-4,4'-diisocyanatodiphenyl ether and 2.0 g 4,4'-dihydroxydiphenyl ether were heated to 200° over 1.5 h and then heated 1 h at 200°, 0.5 h at 250°, and 0.5 h at 300°, giving a 98.5% yield of a brown solid polymer (I) [73539-21-6] which showed 1.8% weight loss after heating 100 h in air at 300°.

IT 73603-44-8DP, polymers with diaminodicyanoethylene and isothiocyanato-terminated isothiocyanic acid polymethylenephénylene ester  
 (manufacture of heat-resistant)

RN 73603-44-8 HCAPLUS

CN Benzenamine, 3,3'-(1,3-propanediyl)bis[6-ethynyl- (9CI) (CA INDEX NAME)



IC C08G073-06; C08G077-32  
 CC 35-3 (Synthetic High Polymers)

IT 1187-12-8DP, polymers with bis(aminoethynylphenyl)propane and isothiocyanato-terminated isothiocyanic acid polymethylenephenylene ester 9016-87-9DP, isothiocyanato-terminated, polymers with diaminodicyanoethylene and bis(aminoethynylphenyl)propane 73417-40-0DP, polymers with oxydicyanophenylene-siloxane copolymers 73539-21-6P 73539-97-6P 73600-48-3P 73600-51-8P 73600-54-1P 73600-57-4P 73600-59-6P 73600-61-0P 73600-64-3P 73600-67-6P 73600-71-2P 73600-74-5P 73600-81-4DP, polymers with (cyanohydroxyphenyl)siloxanes 73603-44-8DP, polymers with diaminodicyanoethylene and isothiocyanato-terminated isothiocyanic acid polymethylenephenylene ester 73613-40-8P 73613-44-2P 73613-48-6P 73614-20-7P 73614-21-8P 73614-56-9P 73614-59-2P 73614-65-0P 73614-69-4P 73614-72-9P 73614-80-9P 73614-86-5P 73614-91-2P 73614-95-6P 73614-97-8P 73615-03-9P 73615-11-9P 73615-13-1P 73615-16-4P 73615-19-7P 73615-21-1P 73629-28-4P 73629-30-8P 73629-33-1P 73629-36-4P 73629-38-6P 73650-29-0P 73655-78-4P 73716-72-0P 73716-73-1P 74009-36-2P  
(manufacture of heat-resistant)

L26 ANSWER 17 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1980:216210 HCAPLUS

DOCUMENT NUMBER: 92:216210

TITLE: Thermostable heterocyclic polymers

INVENTOR(S): Chernikhov, A. Ya.; Yakovlev, M. N.; Lysova, V. B.; Gefter, E. L.; Shmagina, N. N.

PATENT ASSIGNEE(S): USSR

SOURCE: Fr. Demande, 45 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

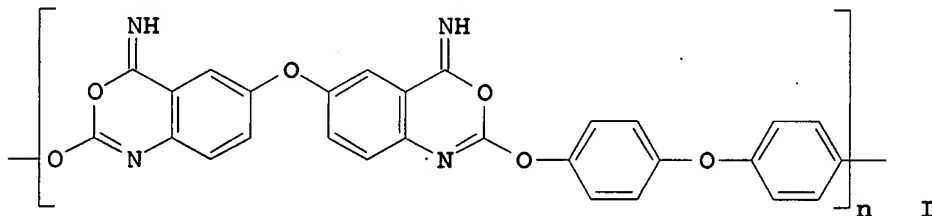
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2428655	A1	19800111	FR 1978-17808	19780614
			<--	
FR 2428655	B1	19810508		
PRIORITY APPLN. INFO.:			FR 1978-17808	A 19780614
			<--	

ED Entered STN: 12 May 1984

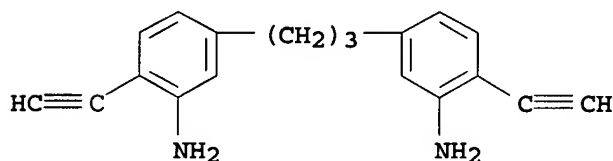
GI



AB Copolymers with good heat resistance are prepared by the copolymn. of  $\geq 1$  monomer (and/or oligomer) containing multiple CN and/or C.tplbond.CH groups as well as other functional groups such as NCO,

NCS, NH<sub>2</sub>, OH, NSO, or SH groups with  $\geq 1$  other monomer (and/or oligomer) containing functional groups such as OH, NCO, NH<sub>2</sub>, SH, NCS, or NSO groups. The nitrile and/or ethynyl groups are located in the alpha, ortho, or peri position with respect to the other functional groups and cause the formation of heterocyclic rings during polymerization. The polymers contain aromatic rings. Some of the 44 polymers were prepared from decaboranes, silanes, siloxanes, cyclotriphosphazenes, phosphates, or halogen-containing compds. Thus, 3.0 g bis(3-cyano-4-isocyanatophenyl) ether and 2 g bis(4-hydroxyphenyl) ether were heated at  $\leq 300^\circ$  to prepare 98.5% copolymer I [73539-21-6], which lost 1.8% of its weight during 100 h at  $300^\circ$  in air.

IT 73603-44-8DP, polymer with (diaminomethylene)malononitrile and isothiocyanate-terminated polymethylenepolyphenylene isocyanate (preparation and heat resistance of)  
 RN 73603-44-8 HCAPLUS  
 CN Benzenamine, 3,3'-(1,3-propanediyl)bis[6-ethynyl- (9CI) (CA INDEX NAME)



IC C08G073-06; C08G075-32  
 CC 36-3 (Plastics Manufacture and Processing)  
 IT 1187-12-8DP, polymer with isothiocyanate-terminated polymethylenepolyphenylene isocyanate and 5,5'-(trimethylene)bis(2-ethynylaniline) 9016-87-9DP, isothiocyanate-terminated, polymer with (diaminomethylene)malononitrile and 5,5'-(trimethylene)bis(2-ethynylaniline) 73539-21-6P 73539-97-6P 73600-51-8P 73600-57-4P 73600-69-8DP, polymer with (perfluorohexamethylene)bis(ethynylisothiocyanatobenzene) and polymeric bis(hydroxybenzonitrile) 73600-70-1DP, polymer with ethynylphenylbenzimidazolidine and polymeric bis(hydroxybenzonitrile) 73600-74-5P 73600-82-5P 73600-83-6P 73603-44-8DP, polymer with (diaminomethylene)malononitrile and isothiocyanate-terminated polymethylenepolyphenylene isocyanate 73614-21-8P 73614-56-9P 73614-59-2P 73614-65-0P 73614-67-2P 73614-69-4P 73614-72-9P 73614-76-3P 73614-80-9P 73614-81-0P 73614-86-5P 73614-91-2P 73614-95-6P 73614-97-8P 73615-03-9P 73615-11-9P 73615-13-1P 73615-16-4P 73615-19-7P 73615-21-1P 73629-28-4P 73629-30-8P 73629-33-1P 73629-36-4P 73644-16-3P 73650-30-3P 73652-09-2P (preparation and heat resistance of)

L26 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1978:22235 HCAPLUS

DOCUMENT NUMBER: 88:22235

TITLE: 1,3-Bis(2-aminocyclohexyl)propanes

INVENTOR(S): Nishihara, Akio; Omi, Jinichi; Tsuchiya, Hiroshi

PATENT ASSIGNEE(S): Asahi Electro-Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

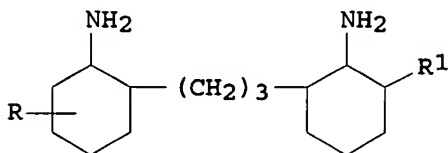
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 52083530	A	19770712	JP 1976-146	19760101

## PRIORITY APPLN. INFO.:

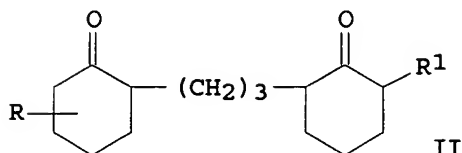
JP 1976-146	A	19760101
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ED Entered STN: 12 May 1984

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I



II

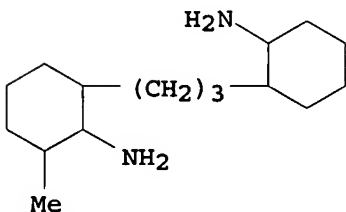
AB Four title amines I (R = H, Me; R1 = H, Me, Bu) were prepared by reductive amination of II. Thus, a solution of 0.105 mol II (R = R1 = H) and 0.5 mol NH3 in EtOH was hydrogenated over Ni at 120° to give 98.0% I (R = R1 = H), which was converted into its N,N'-diacetyl derivative

IT 64899-84-9P 64943-66-4P 64943-68-6P  
64943-69-7P

(preparation of)

RN 64899-84-9 HCAPLUS

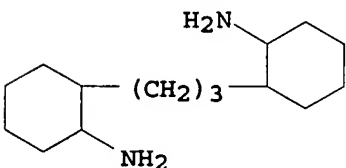
CN Cyclohexanamine, 2-[3-(2-amino-3-methylcyclohexyl)propyl]methyl- (9CI)  
(CA INDEX NAME)



D1-Me

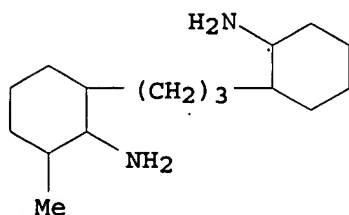
RN 64943-66-4 HCAPLUS

CN Cyclohexanamine, 2,2'-(1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



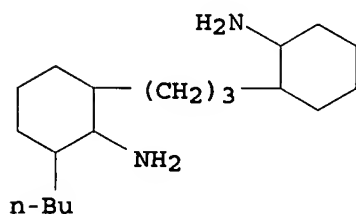
RN 64943-68-6 HCAPLUS

CN Cyclohexanamine, 2-[3-(2-aminocyclohexyl)propyl]-6-methyl- (9CI) (CA INDEX NAME)



RN 64943-69-7 HCAPLUS

CN Cyclohexanamine, 2-[3-(2-aminocyclohexyl)propyl]-6-butyl- (9CI) (CA INDEX NAME)



IC C07C049-48

CC 24-5 (Alicyclic Compounds)

IT 64899-84-9P 64943-66-4P 64943-67-5P

64943-68-6P 64943-69-7P

(preparation of)

L26 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1974:84401 HCAPLUS

DOCUMENT NUMBER: 80:84401

TITLE: Heat stable reinforced molded article

INVENTOR(S): Minami, Muneyoshi; Kitamura, Kazuo

PATENT ASSIGNEE(S): Toray Industries, Inc.

SOURCE: Jpn. Tokkyo Koho, 6 pp.

CODEN: JAXXAD

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 48011826	B	19730416	JP 1969-10469	19690214

PRIORITY APPLN. INFO.:

JP 1969-10469 19690214

ED Entered STN: 12 May 1984

AB Heat-resistant polyamide-imide reinforced molding compns. were prepared from 1,2,3,4-butanetetracarboxylic acid [1703-58-8], and aromatic diamine, e.g. phenylenediamine [25265-76-3], diaminodiphenylpropane [2767-73-9], and a polyamine, e.g. triaminodipenyl ether [51131-47-6], triaminodiphenylmethane [51131-48-7]. The substrate,

e.g. glass fibers, asbestos, was impregnated with the polyamide-imide and molded under pressure at 130-450.deg..

IC B29D; C08G

CC 37-3 (Plastics Fabrication and Uses)

L26 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1969:501434 HCAPLUS

DOCUMENT NUMBER: 71:101434

TITLE: Mass spectra and pyrolysis of some aromatic-fluoroaliphatic compounds

AUTHOR(S): Cotter, John L.

CORPORATE SOURCE: Roy. Aircraft Estab., Farnborough, UK

SOURCE: Gt. Brit., Roy. Aircr. Estab., Tech. Rep. (1967), RAE-TR-67251, 14 pp. Avail.: CFSTI  
From: Sci. Tech. Aerosp. Rep. 1968, 6(12), 1837  
CODEN: GBATAU

DOCUMENT TYPE: Report

LANGUAGE: English

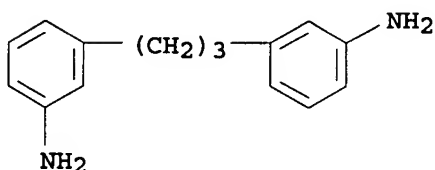
ED Entered STN: 12 May 1984

AB The mass spectra of 13 aromatic-fluoroaliphatic compds. m-RC<sub>6</sub>H<sub>4</sub>(CH<sub>2</sub>)<sub>n</sub>-C<sub>6</sub>H<sub>4</sub>R-m, (R = H, Me, NH<sub>2</sub>, I, OCOC<sub>2</sub>H<sub>5</sub>, OMeOH, and OAc for n = 3; and R = H, NH<sub>2</sub>, NO<sub>2</sub>, and Br for n = 5), perfluoro-1,3-diphenylpropane, and 1,3-di(3-pyridyl)hexafluoropropane are reported. The products of thermal decomposition of 3 of these compds. were examined by mass spectrometry; at 515° the order of thermal stability was C<sub>6</sub>F<sub>5</sub>(CF<sub>2</sub>)<sub>3</sub>C<sub>6</sub>F<sub>5</sub> < Ph(CF<sub>2</sub>)<sub>3</sub>Ph < Ph(CF<sub>2</sub>)<sub>5</sub>Ph.

IT 23916-05-4P  
(preparation of)

RN 23916-05-4 HCAPLUS

CN Benzenamine, 3,3'-(1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



CC 25 (Noncondensed Aromatic Compounds)

IT 1081-75-0P 1718-50-9P 23691-35-2P 23916-05-4P

23916-06-5P 23916-07-6P 23916-08-7P 23916-10-1P 23916-11-2P

23916-12-3P 23937-94-2P 24049-30-7P 25078-75-5P

(preparation of)

L26 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1969:68105 HCAPLUS

DOCUMENT NUMBER: 70:68105

TITLE: 5,6,7,12-Tetrahydrodibenz[b,g]azocines and aminoalkylamine derivatives

AUTHOR(S): Fouche, Jean C. L.

CORPORATE SOURCE: Lab. Rech. Pharm., Soc. Usines Chim.

RHONE-POULENC, Vitry-sur-Seine, Fr.

SOURCE: Industrie Chimique Belge (1967), 32(Spec. No.), 226-33

CODEN: ICBEAJ; ISSN: 0019-9052

DOCUMENT TYPE: Journal

LANGUAGE: French

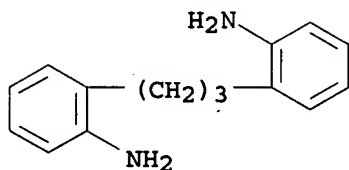
ED Entered STN: 12 May 1984

GI For diagram(s), see printed CA Issue.

AB Reduction of 2-O<sub>2</sub>-NC<sub>6</sub>H<sub>4</sub>COCl with KBH<sub>4</sub> and LiCl in tetrahydrofuran gave 88.5-95% 2-nitrobenzyl alc., m. 70-2°, which was oxidized with HNO<sub>3</sub> initially at 10° with cooling to give 81-9% 2-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CHO (I), m. 39-42°. NaOEt condensation of I with 2-nitroacetophenone yielded 84-8% 2,2'-dinitrochalcone, m. 135-6°, which was reduced with KBH<sub>4</sub> to give 73-88.5% 1,3-bis(2-nitrophenyl)-3-propen-1-ol (II), m. 80-90°. Hydrogenation of II over Pt gave 87-91% 1,3-bis-(2-aminophenyl)-1-propanol (III), m. 105-6°; di-N-acetyl derivative m. 228°. 1,3-Bis(2-acetamidophenyl)-1-chloropropane (IV), m. 160-5°, was prepared with SOCl<sub>2</sub>. Hydrogenolysis of 169 g. IV over Pd gave 116.5 g. 1,3-bis(acetamidophenyl)propane (V), m. 262°. V was also prepared in 84% yield by carefully treating III with HClO<sub>4</sub> in AcOH followed by hydrogenation and acetylation and in 82-5.5% yield from III and HBr followed by hydrogenolysis and acetylation. Hydrolysis of V with HCl in (CH<sub>2</sub>OH)<sub>2</sub> gave 100% 1,3-bis(2-aminophenyl)propane, m. 71-2°; phosphate (VI) m. 226-30°. Heating VI 90 min. at 290-300° gave 42.5% VII m. 58-60°; Ac derivative m. 137-8°. Various VIII were prepared by treating VII with NaH and then chloroamines (method A), with phosgene and a hydroxyamine followed by pyrolysis of the product (method B), with BuLi and a chloroalkyl p-toluenesulfonate followed by treatment of the resulting chloride with an amine (method C), or with BuLi and an ethylene oxide followed by conversion of the resulting alc. through the methanesulfonate to an amine (method D). In one instance using method D, the chain was extended by conversion of the methanesulfonate to the nitrile, reduction, and methylation. VIII prepared were (X, NR'<sup>2</sup>, method of synthesis, % yield, salt isolated, and m.p. salt listed): (CH<sub>2</sub>)<sub>2</sub>, NH<sub>2</sub>, D, 54, HCl, 193-5°; CH<sub>2</sub>CHMe, NH<sub>2</sub>, D, 43, HCl, 215°; (CH<sub>2</sub>)<sub>3</sub>, NH<sub>2</sub>, C, 45, neutral tartrate, 179-81°; CH<sub>2</sub>CHMe, NHMe, D, 75, HCl, 188-90°; CH<sub>2</sub>CHMeCH<sub>2</sub>, NHMe, C, 31, HCl, 201-3°; (CH<sub>2</sub>)<sub>2</sub>, NMe<sub>2</sub>, A, 44 (54), HCl (fumarate), 242-4° (176-8°); CH<sub>2</sub>CHMe, NMe<sub>2</sub>, B (D), 25(41), fumarate, 176-8°; (CH<sub>2</sub>)<sub>3</sub>, NMe<sub>2</sub>, A, 49, oxalate, 148-50°; CH<sub>2</sub>CHMeCH<sub>2</sub>, NMe<sub>2</sub>, A (C), 76.5 (41), HCl, 230-2°; (CH<sub>2</sub>)<sub>2</sub>, NEt<sub>2</sub>, A, 12.5, HCl, 176-8°; (CH<sub>2</sub>)<sub>3</sub>, NEt<sub>2</sub>, C, 66, oxalate, 130-3°; CH<sub>2</sub>CHMeCH<sub>2</sub>, NEt<sub>2</sub>, C, 38.5, HCl, 180-3°; CH<sub>2</sub>CHMe, 1-pyrrolidinyl (Q), D, 31.5, HCl, 200°; (CH<sub>2</sub>)<sub>3</sub>, Q, C, 43, neutral tartrate, 128-30°; CH<sub>2</sub>CHMeCH<sub>2</sub>, Q, C, 52, HCl, 140° then 210°; (CH<sub>2</sub>)<sub>2</sub>, piperidino (T), A, 32.5, HCl, 208-12°; CH<sub>2</sub>CHMe, T, D, 36, HCl, 182-4°; (CH<sub>2</sub>)<sub>3</sub>, T, C, 29, neutral tartrate, 140-2°; CH<sub>2</sub>CHMeCH<sub>2</sub>, T, C, 33, HCl, 196-200°; (CH<sub>2</sub>)<sub>2</sub>; 4-hydroxypiperidino (U), D, 76.5, neutral tartrate, 194-6°; CH<sub>2</sub>CHMe, U, D, 67, HCl, 170-5°; (CH<sub>2</sub>)<sub>3</sub>, U, C, 61, oxalate, 120-30°; (CH<sub>2</sub>)<sub>3</sub>, 4-methylpiperazinyl (V), A, 64, 2 HCl, 198-200°; CH<sub>2</sub>CHMeCH<sub>2</sub>, V, C, 46.5, 2 HCl, 198-201°; CH<sub>2</sub>CHMe, 4-hydroxyethylpiperazino (W), D, 63.5, 2 HCl, 193-7°; (CH<sub>2</sub>)<sub>3</sub>, W, C, 68, 2 HCl, 200-2°; CH<sub>2</sub>CHMeCH<sub>2</sub>, W, C, 43.5, base, 78.5-81.5°; (CH<sub>2</sub>)<sub>3</sub>, 4-hydroxyethoxyethyl-piperazino (Y), C, 71, 2 HCl, 164-6°; CH<sub>2</sub>CHMeCH<sub>2</sub>, Y, C, 47.5, base, 78.5-80.5°. Optically active starting materials gave the following VIII (XNR'<sup>2</sup> given): Me<sub>2</sub>NCH<sub>2</sub>CHMe, [α]<sub>D</sub><sup>20</sup> 44.7° (EtOH); and Me<sub>2</sub>NCH<sub>2</sub>CHMeCH<sub>2</sub>, [α]<sub>D</sub><sup>20</sup> 27.2 and -26.9° (CHCl<sub>3</sub>); and the following 12-substituted VII (12 substituent given): ClCO, (m. 154-6°); Me<sub>2</sub>NCH<sub>2</sub>CHMeO<sub>2</sub>C (m. 122-4°); MeSO<sub>3</sub>CHMeCH (b.p. 160°); MeCH(CN)CH<sub>2</sub> (m. 96°).

IT 21598-82-3P 21598-83-4P  
(preparation of)

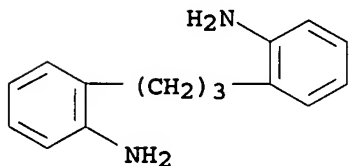
RN 21598-82-3 HCAPLUS  
 CN Benzenamine, 2,2'-(1,3-propanediyl)bis- (CA INDEX NAME)



RN 21598-83-4 HCAPLUS  
 CN Aniline, 2,2'-trimethylenedi-, phosphate (2:3) (8CI). (CA INDEX NAME)

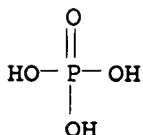
CM 1

CRN 21598-82-3  
 CMF C15 H18 N2



CM 2

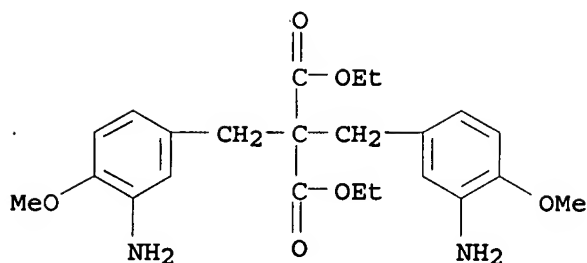
CRN 7664-38-2  
 CMF H3 O4 P



CC 27 (Heterocyclic Compounds (One Hetero Atom))  
 IT 552-89-6P 612-25-9P 1232-83-3P 1236-63-1P 1236-69-7P  
 1239-98-1P 1242-68-8P 1252-05-7P 1428-97-3P 1503-15-7P  
 1530-99-0P 1531-01-7P 1531-03-9P 1639-73-2P 21598-81-2P  
 21598-82-3P 21598-83-4P 21598-85-6P 21598-87-8P  
 21598-88-9P 21598-89-0P 21598-90-3P 21598-91-4P 21598-92-5P  
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 21599-10-0P 21599-13-3P 21599-14-4P 21599-15-5P 21599-16-6P  
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 21688-90-4P 21688-91-5P 21720-48-9P 21749-77-9P 23051-89-0P  
 23250-26-2P  
 (preparation of)

L26 ANSWER 22 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1966:75577 HCAPLUS  
 DOCUMENT NUMBER: 64:75577

ORIGINAL REFERENCE NO.: 64:14124c-g  
TITLE: Cytoactive alkoxy and hydroxy amino acids. IV.  
Synthesis of  $\alpha$ -[3-bis(2-chloroethyl)amino-4-methoxybenzyl]caproic acid  
AUTHOR(S): Straukas, J.; Degutis, J.  
SOURCE: Lietuvos TSR Mokslu Akad. Darbai, Ser. B (1965), (4), 47-53  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian  
ED Entered STN: 22 Apr 2001  
AB cf. Zh. Obshch. Khim. 36(2), 224-8(1966); CA 60, 10780d. The title compound (I) was prepared by the following sequence. Na condensation of di-Et malonate (II) with BuBr was done in MeOH to give BuCH(CO<sub>2</sub>Me)<sub>2</sub> (III), b. 219-21°, ester exchange occurring in the process. 4-Methoxy-3-nitrobenzyl chloride (IV) was added to III to yield di-Me butyl(4-methoxy-3-nitrobenzyl)malonate (V), m. 96-7°. V (10.3 g.) in 50 ml. EtOH was reduced in the presence of 1 g. 5% Pd/CaCO<sub>3</sub> to give 97% di-Me butyl(3-amino-4-methoxybenzyl)malonate (VI). Treatment of 8.3 g. VI with 4.2 ml. ethylene oxide in 50% HOAc for 48 hrs. gave 90.5% di-Me butyl[3-bis(2-hydroxyethyl)amino-4-methoxybenzyl]malonate (VII), m. 80-2°. Refluxing 1 g. VII in 10 ml. CHCl<sub>3</sub> with 1.5 ml. POCl<sub>3</sub> for 1.5 hrs. produced di-Me butyl[3-bis(2-chloroethyl)amino-4-methoxybenzyl] malonate (VIII), m. 35-7°. Hydrolysis and decarboxylation of VIII gave I. Thus, 0.7 g. VIII was dissolved in 2 ml. HOAc and 8 ml. concentrated HCl added to the solution. After 15 hrs. refluxing the solvent was removed in vacuo, the residue dissolved in EtOAc and washed with aqueous NaHCO<sub>3</sub>. Evaporation of the EtOAc left I as a colorless oil. Heating VIII with concentrated HCl for 1 hr. gave butyl [3-bis(2-chloroethyl)amino-4-methoxybenzyl] malonic acid, which started to melt at 60°, decomposed >88°. When di-Et malonate was combined first with IV in EtOH, only di-Et bis(4-methoxy-3-nitrobenzyl)malonate (IX), m. 122-3°, was obtained. Reduction of IX yielded di-Et bis(3-amino-4-methoxybenzyl)malonate (X) as an oil [di-HCl salt m. 232-4° (decomposition)]. Acylation of X in hot pyridine with p-toluenesulfonyl chloride gave di-Et bis(4-methoxy-3-tosylaminobenzyl)malonate (XI), m. 159-60°. Di-Et bis[3-(N-2-bromoethyl-N-tosylamino)-4-methoxybenzyl]malonate was prepared by adding 1.48 g. XI to 10 ml. dioxane, adding 1.4 g. K<sub>2</sub>CO<sub>3</sub> and then 1 ml. BrCH<sub>2</sub>CH<sub>2</sub>Br. The mixture was refluxed 18 hrs., filtered, and the filtrate added to 200 ml. cold 5% KOH. The resulting product, purified by precipitating from H<sub>2</sub>O-acetone, melted unsharply at 68-78°.  
IT 5292-37-5P, Malonic acid, bis(3-amino-4-methoxybenzyl)-, diethyl ester, dihydrochloride (preparation of)  
RN 5292-37-5 HCAPLUS  
CN Malonic acid, bis(3-amino-4-methoxybenzyl)-, diethyl ester, dihydrochloride (7CI, 8CI) (CA INDEX NAME)



● 2 HCl

CC 35 (Noncondensed Aromatic Compounds)

IT 5292-35-3P, Malonic acid, [3-[bis(2-chloroethyl)amino]-4-methoxybenzyl]butyl- 5292-36-4P, Malonic acid, bis(4-methoxy-3-nitrobenzyl)-, diethyl ester 5292-37-5P, Malonic acid, bis(3-amino-4-methoxybenzyl)-, diethyl ester, dihydrochloride 5292-38-6P, Malonic acid, bis(4-methoxy-3-p-toluenesulfonamidobenzyl)-, diethyl ester 5312-05-0P, p-Benzenedipropionic acid, 2,5-dimethyl- 5312-06-1P, Hydrocinnamic acid, 3-[bis(2-chloroethyl)amino]-α-butyl-4-methoxy- 5312-07-2P, Malonic acid, [3-[bis(2-hydroxyethyl)amino]-4-methoxybenzyl]butyl-, dimethyl ester 5373-95-5P, Malonic acid, (3-amino-4-methoxybenzyl)butyl-, dimethyl ester 5373-96-6P, Malonic acid, [3-[bis(2-chloroethyl)amino]-4-methoxybenzyl]butyl-, dimethyl ester 5570-89-8P, Malonic acid, butyl(4-methoxy-3-nitrobenzyl)-, dimethyl ester 5608-31-1P, Malonic acid, bis[3-[N-(2-bromoethyl)-p-toluenesulfonamido]-4-methoxybenzyl]-, diethyl ester  
(preparation of)

L26 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1965:489474 HCAPLUS

DOCUMENT NUMBER: 63:89474

ORIGINAL REFERENCE NO.: 63:16503e-f

TITLE: Aromatic polyimide particles from polycyclic diamines

INVENTOR(S): Endrey, Andrew L.

PATENT ASSIGNEE(S): E. I. du Pont de Nemours &amp; Co.

SOURCE: 9 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

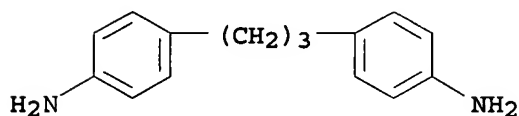
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 3179631		19650420	US 1962-169107	19590401
			<--	
PRIORITY APPLN. INFO.:			US	19590401
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ED Entered STN: 22 Apr 2001

AB Finely-divided, high-surface-area polyimides are prepared and coalesced at temps. below the crystalline m.p. into solid, homogeneous objects. When the surface area of the polyimide particle exceeds 0.1 m.<sup>2</sup>/g., a significant improvement in strength is noted. Thus, a polyamide-acid

of  $[\eta] = 2.36$  was prepared from 4.0046 g. of 4,4'-diaminodiphenyl ether and 4.3624 of pyromellitic dianhydride in 75 mL. AcNMe<sub>2</sub>. Precipitation and partial conversion to polyimide was effected by adding the above soln. to a solution containing 300 mL. toluene, 60 mL. C<sub>5</sub>H<sub>5</sub>N, 25 mL. Ac<sub>2</sub>O, and 0.1 g. LiCl. After filtering and drying, the polymer was suspended in Ac<sub>2</sub>O and refluxed overnight. After isolation and heating under N for 16 h., the polyimide powder, which had a surface area of 2-3 m.<sup>2</sup>/g., could be coalesced to a chip with a strength index of 3.5.

IT 2767-73-9, Aniline, 4,4'-trimethylenedi-  
(imide particles from tetracarboxylic acid dianhydrides and)  
RN 2767-73-9 HCAPLUS  
CN Benzenamine, 4,4'-(1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



INCL 260078000  
CC 45 (Synthetic High Polymers)  
IT 101-80-4, Aniline, 4,4'-oxydi- 101-80-4, Aniline, 4,4'-oxydi-  
2420-88-4, Aniline, 4,4'-(methylimino)di- 2479-46-1, Aniline,  
4,4'-(m-phenylenedioxy)di- 2767-73-9, Aniline,  
4,4'-trimethylenedi-  
(imide particles from tetracarboxylic acid dianhydrides and)

L26 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1965:481350 HCAPLUS  
DOCUMENT NUMBER: 63:81350  
ORIGINAL REFERENCE NO.: 63:15057b-c  
TITLE: Poly(imino lactones)  
PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.  
SOURCE: 15 pp.  
DOCUMENT TYPE: Patent  
LANGUAGE: Unavailable  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6413549		19640524	NL	
BE 656047			BE	
US 3271366			US	
PRIORITY APPLN. INFO.:			US	19610307

ED Entered STN: 22 Apr 2001

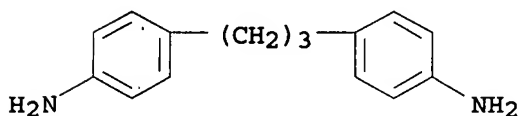
AB The preparation of poly(imino lactones) (I) is described. I can be used to make films or filaments and are subject to hydrolysis or can be changed to polyamide esters. The polylactones can also be used as adhesives in laminates, or as coatings in which they can cure in situ. For example, equimolar amts. of pyromellitic anhydride and 4,4'-diaminodiphenyl ether are added to 9 parts of AcNMe<sub>2</sub> at 25-40, giving a polyamido acid. Then 30 ml. 1M (CF<sub>3</sub>CO)<sub>2</sub>O in benzene is added to 2.94 g. of the polyamido acid solution in a closed container. The cyclization is very rapid and results in a yellow gel.

IT 2767-73-9, Aniline, 4,4'-trimethylenedi-  
(polyamido acids from carboxylic dianhydrides and, and poly(imino

lactones) therefrom)

RN 2767-73-9 HCAPLUS

CN Benzenamine, 4,4'-(1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



IC C08G

CC 48 (Plastics Technology)

IT 92-87-5, Benzidine 106-50-3, p-Phenylenediamine 108-45-2,  
 m-Phenylenediamine 2767-73-9, Aniline, 4,4'-trimethylenedi-  
 (polyamido acids from carboxylic dianhydrides and, and poly(imino  
 lactones) therefrom)

L26 ANSWER 25 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1965:439472 HCAPLUS

DOCUMENT NUMBER: 63:39472

ORIGINAL REFERENCE NO.: 63:7120a-f

TITLE: Polyurethans. III. The effects of aromatic rings  
 on the structure and properties of polyurethans  
 based on ethylene glycol

AUTHOR(S): Lyman, Donald J.; Heller, Jorge; Barlow, Malcolm  
 CORPORATE SOURCE: Stanford Res. Inst., Menlo Park, CA

SOURCE: Makromolekulare Chemie (1965), 84, 64-79  
 CODEN: MACEAK; ISSN: 0025-116X

DOCUMENT TYPE: Journal

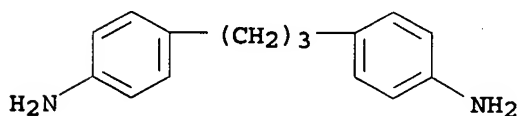
LANGUAGE: English

ED Entered STN: 22 Apr 2001

AB cf. CA 56, 14454g. The synthesis and properties of linear aromatic polyurethans based on ethylene glycol and their corresponding aliphatic analogs are described. The preparation of intermediates included ClCO2CH2CH2O2CCL (I), b29 80-2°; CH2(C6H4NCO-4)2 (II), b0.2 148-50°; (4-H2NC6H4CH2)2 (III), purified by sublimation at 0.01 torr and 140°, m. 141-2°; (4-OCNC6H4CH2)2 (IV), m. 92-2.5°, prepared from a solution of III in EtOAc treated with COCl2 in EtOAc; 1,3-diphenylpropane, b2.9 126-8° (V), n25D 1.5575; 1,3-bis(4-nitrophenyl)propane (VI), m. 134-43°; 1,3-bis(4-aminophenyl)propane (VII), m. 103.5-5°; [4-O3NC6H4CH2PPh3]+Br- (VIII), hygroscopic, prepared by refluxing a mixture of p-nitrobenzyl bromide and Ph3P in HCONMe2 and recrystd. from EtOH; p-nitrocinnamaldehyde (IX), yellow needles, m. 137-48°; 1,4-bis(p-nitrophenyl)-1,3-butadiene (X), yellow platelets, m. 269-71°, recrystd. from EtOAc, prepared by treating a solution of VIII and p-nitrocinnamaldehyde with Li in EtOH; (4-H2NC6H4CH2CH2)2 (Xa), m. 88-9°, purified by sublimation at 0.02 torr and 165°, prepared by hydrogenating a solution of X in HCONMe2. The preparation of polyurethans of structure XI, where Y is 1 (XII), 2 (XIII), 3 (XIV), and 4 (XV), is described. For XII, a mixture of 4-methyl-2-pentanone and II is treated with HOCH2CH2OH in Me2SO, and the clear viscous solution is poured onto water. The tough, white polymer precipitate is washed and dried at 90° in vacuo. Clear, tough films are obtained by casting HCONMe2 solns. of the polymer. XIII is prepared by treating an emulsion of III in Na2CO3, H2O, and tetrahydrofuran with I in tetrahydrofuran. XIV is prepared by treating a solution of VII and Na2CO3 in H2O with I in anhydrous CH2Cl2, while XV is prepared by treating a suspension of Xa and Na2CO3 in H2O with I in

CH<sub>2</sub>Cl<sub>2</sub>. The preparation of (-NH(CH<sub>2</sub>)<sub>γ</sub> NHCO<sub>2</sub>-CH<sub>2</sub>CH<sub>2</sub>O<sub>2</sub>C-)n, where γ is 9 (XVI) and 10 (XVII), is described. For XVI, a mixture of 1,9-nonanediamine, Na<sub>2</sub>CO<sub>3</sub>, and Na lauryl sulfate in H<sub>2</sub>O is treated with I in anhydrous C<sub>6</sub>H<sub>5</sub>. XVII is prepared by treating an emulsion of 1,10-decanediamine, Na<sub>2</sub>CO<sub>3</sub>, and Na lauryl sulfate in H<sub>2</sub>O with I in anhydrous C<sub>6</sub>H<sub>6</sub>. A polyamide (XVIII) is prepared by treating a solution of 1,9-nonanediamine and NaOH in H<sub>2</sub>O with a solution of adipoyl chloride in anhydrous C<sub>6</sub>H<sub>6</sub>. By using 1,10-decanediamine, nylon 610 (XIX) is prepared in the same way. The inherent viscosities of 0.5% solns. at 30% melting temps., and glass-transition temps, for XII, XIII, XIV, XV, XVI, XVII, XVIII, and XIX are 1.01 (HCONMe<sub>2</sub>), 239°, 92.7°; 0.70 (H<sub>2</sub>SO<sub>4</sub>), 312°, 116.9°; 0.36 (HCONMe<sub>2</sub>), 207°, 74.1°; 0.46 (HCONMe<sub>2</sub>), 274°, 105.7°; 0.77 (m-cresol), 168°, 44°; and 0.79 (m-cresol), 174°, 60.8°, resp. X-ray diffraction data for XII show that the chain-repeat distance of the aromatic polyurethan, as compared with its aliphatic analog, is drastically shortened from 35.2 to 15.7 Å., and that the chain has a conformation that involves only 1 chemical unit within the fiber repeat distance.

IT 2767-73-9, Aniline, 4,4'-trimethylenedi-, urethan polymers from  
(with ethylene glycol groups)  
RN 2767-73-9 HCAPLUS  
CN Benzenamine, 4,4'-(1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



CC 45 (Synthetic High Polymers)  
IT 646-24-2, 1,9-Nonanediamine, amide polymers and urethan polymers from  
2767-73-9, Aniline, 4,4'-trimethylenedi-, urethan polymers  
from 2767-74-0, Aniline, 4,4'-tetramethylenedi-, urethan polymers  
from  
(with ethylene glycol groups)

L26 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1965:66409 HCAPLUS

DOCUMENT NUMBER: 62:66409

ORIGINAL REFERENCE NO.: 62:11774f-h, 11775a-h, 11776a-h, 11777a-c

TITLE: Carboxylic piperazides with chemotherapeutic activity against *Dicrocoelium dendriticum*

AUTHOR(S): Schorr, Manfred; Lowee, Heinz; Juergens, Ernst; Weber, Helmut; Laemmler, G.

CORPORATE SOURCE: Farbwerke Hoechst A.-G., Frankfurt-Hoechst, Germany

SOURCE: Arzneimittelforschung (1964), 14(10), 1151-6

CODEN: ARZNAD; ISSN: 0004-4172

DOCUMENT TYPE: Journal

LANGUAGE: German

ED Entered STN: 22 Apr 2001

GI For diagram(s), see printed CA Issue.

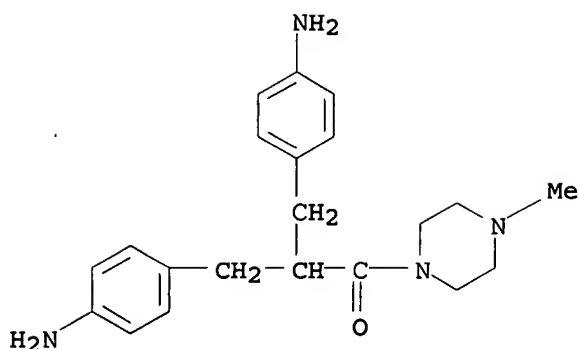
AB cf. Hohorst and Graefe, Naturwissenschaften 48, 229(1961). The elucidation of the development of the lancet fluke *D. dendriticum* (loc. cit.) permitted a search for an active chemotherapeutic agent. Several araliphatic carboxylic piperazides were found to be effective

against *D. dendriticum*. The initial findings motivated the synthesis of approx. 200 compds. with modified structures, of which 6 types of compds. (I-VI) were of particular interest. Thus, a mixture of 73 g. (4-ClC<sub>6</sub>H<sub>4</sub>)<sub>3</sub>COH, 34 g. NCCH<sub>2</sub>CO<sub>2</sub>H, 72 g. AcOH, and 14 g. anhydrous ZnCl<sub>2</sub> refluxed and stirred 3 hrs. gave 68 g. (4-Cl-C<sub>6</sub>H<sub>4</sub>)<sub>3</sub>CCH<sub>2</sub>CN, m. 170-2°, which (50 g.) heated and stirred 15 hrs. at 150° (bath) with 60 ml. H<sub>2</sub>O, 60 ml. concentrated H<sub>2</sub>SO<sub>4</sub>, and 80 ml. AcOH gave 50 g. (4-ClC<sub>6</sub>H<sub>4</sub>)<sub>3</sub>CCH<sub>2</sub>CO<sub>2</sub>H (VII), m. 185-6°. X, Y, Z, R, Method, m.p., m.p. HCl salt, m.p. maleate, m.p. corresponding carboxylic acid used; H, H, H, Me, B, --, 253-4°, --, --; 3-Cl, H, H, Me, B, --, --, 190-1°, 115°; 4-Cl, H, H, Me, A, --, 150° (decomposition), --, 183-5°; 4-Cl, 4-Cl, H, Me, A, 166-7°, 250°, --, 180-2°; 4-Cl, 4-Cl, 4-Cl, Me, A, 213-15°, 259-63° (decomposition), --, 185-6°; 4-Cl, 4-Br, 4-Br, Me, B, 216-19°, --, 216° (decomposition), 206-8°; 4-Cl, 4-Cl, 3-F, Me, B, 157-8°, 238-40°, --, --; 4-F, 4-F, H, Me, B, --, 258-60°, --, 162°; 4-Cl, 4-F, 4-F, Me, A, 133-4°, 253-4°, --, 109-10°; 4-Cl, 4-Cl, H, CH<sub>2</sub>Ph, B, --, 190-2°, --, 180-2°; 4-Cl, 4-Cl, H, H, D, --, --, 169-70°, --; 4-Cl, H, H, CH<sub>2</sub>Ph, B, --, 157° (decomposition), --, 115°; H, H, H, CH<sub>2</sub>Ph, B, --, 229-31°, --, --; 4-F, 4-F, H, CH<sub>2</sub>Ph, B, --, 193-4°, --, 162°; 4-F, 4-F, H, H, D, --, 250°, --, --; 4-Cl, 4-Cl, 4-Cl, CH<sub>2</sub>Ph, B, --, 240-2°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, H(XIII), D, 167-9°, 94° (contains 4 moles H<sub>2</sub>O), --, 185-6°; 4-Cl, 4-Cl, 4-Cl, Et, B, 170°, 230-2°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, CH<sub>2</sub>CH<sub>2</sub>OH, B, --, 166° (decomposition), --, 185-6°; 4-Cl, 4-Cl, 4-Cl, iso-Pr, B, --, 240-2°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, Pr, B, --, 277-80°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, Bu, B, --, 221-2°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, iso-Bu, B, --, 281-2°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, cyclohexyl, B, --, 289-91°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, CH<sub>2</sub>CH<sub>2</sub>OMe, A, --, 220-2°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, CH<sub>2</sub>OMe, (from XIII and ClCH<sub>2</sub>OMe), --, 159-61° (decomposition), --, 185-6°; 4-Cl, 4-Cl, CH<sub>2</sub>CH<sub>2</sub>NEt<sub>2</sub>, B, --, 188-90° (decomposition), --, 185-6°; 4-Cl, 4-Cl, 4-Cl, (CH<sub>2</sub>)<sub>3</sub>NMe<sub>2</sub>, B, --, 262°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, CH<sub>2</sub>CH<sub>2</sub>CN, B, --, 162° (contains 1 mole H<sub>2</sub>O), --, 185-6°; 4-Cl, 4-Cl, 4-Cl, CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me, B, --, 214-15°, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, COCH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>H, (from XIII and succinic anhydride), 106-8° (decomposition), --, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, CO<sub>2</sub>Et, B, 151-2°, --, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, piperidinocarbonyl, B, 181-2°, --, --, 185-6°; 4-Cl, 4-Cl, 4-Cl, CSNHCH<sub>2</sub>:CH<sub>2</sub>, (from XIII and CH<sub>2</sub>:CHCH<sub>2</sub>NCS), 207-9°, --, --, 185-6°; 4-ClC<sub>6</sub>H<sub>4</sub>MgBr solution (prepared from 12 g. Mg and 96 g. 4-ClC<sub>6</sub>H<sub>4</sub>Br in 250 ml. Et<sub>2</sub>O) treated with 88.5 g. 4-ClC<sub>6</sub>H<sub>4</sub>CH:C(CN)CO<sub>2</sub>Me in 500 ml. C<sub>6</sub>H<sub>6</sub> gave 131 g. crude (4-ClC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>CHCH(CN)CO<sub>2</sub>Me, which heated 3 hrs. on a steam bath with 16 g. NaOH in 400 ml. H<sub>2</sub>O, the solution filtered, acidified with dilute H<sub>2</sub>SO<sub>4</sub>, and extracted with Et<sub>2</sub>O, the extract evaporated, and the residue heated 15 min. at 170° with 25 ml. quinoline until decarboxylation was complete gave 78 g. (4-ClC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>CHCH<sub>2</sub>CN (VIII), b<sub>3</sub> 225-6°. VIII (78 g.) refluxed 18 hrs. with 78 g. KOH in 100 ml. H<sub>2</sub>O and 200 ml. EtOH gave 80 g. (4-ClC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>CHCH<sub>2</sub>-CO<sub>2</sub>H, m. 193-5° (MeOH). 4-ClC<sub>6</sub>H<sub>4</sub>CHO (70 g.), 85 g. 4-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CO<sub>2</sub>H, 51 g. Et<sub>3</sub>N, and 153 g. Ac<sub>2</sub>O heated and stirred 12 hrs. on a steam bath gave 66 g. 4-ClC<sub>6</sub>H<sub>4</sub>CH:C(C<sub>6</sub>H<sub>4</sub>Cl-4)CO<sub>2</sub>H (IX), m. 158-60°. IX (29 g.) in 250 ml. MeOH hydrogenated over Raney Ni at 60°/100 atmospheric with shaking gave 21 g. 4-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CH(C<sub>6</sub>H<sub>4</sub>Cl-4)CO<sub>2</sub>H, m. 125-7°. To

23 g. Na in 375 ml. MeOH was added dropwise 66 g.  $\text{CH}_2(\text{CO}_2\text{Me})_2$  and then 166 g. 4-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Cl and the mixture refluxed 1 hr. to give 181 g. (4-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>)<sub>2</sub>C(CO<sub>2</sub>Me)<sub>2</sub> (X), m. 115-16° (MeOH). X, X', Y, Y', method, m.p. HCl salt, m.p. corresponding carboxylic acid; 4-Cl, H, 4-Cl, H, B, 236-8°, 193-5°; 4-Cl, H, 2-Cl, 4-Cl, B, 243-4°, --; 2-Cl, 4-Cl, 3-Cl, 4-Cl, B, 202-3°, --; 4-Cl, H, 4-OMe, H, B, 224-5°, --; X (136 g.) suspended in 1 l. MeOH refluxed 3 hrs. with 43 g. NaOH in 50 ml. H<sub>2</sub>O, the resulting solution concentrated in vacuo, the residue dissolved in 500 ml. H<sub>2</sub>O, the solution acidified slowly with 100 ml. concentrated HCl (CO<sub>2</sub> was liberated), and heated 1 hr. on a steam bath (to complete decarboxylation) gave 55 g. (4-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>)<sub>2</sub>CHCO<sub>2</sub>H (Xa), m. 124-6° (2:1 cyclohexane-ligroine). To a mixture of 127 g. (4-ClC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>CO, 65 g. Me<sub>2</sub>C:CCO<sub>2</sub>Me, and 500 ml. Me<sub>2</sub>SO was added 50 g. solid NaOMe with stirring (the mixture became hot and colored and subsequently solidified) to give 96 g. (4-ClC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>C:CHCMe:CHCO<sub>2</sub>H, m. 175° (EtOH). I-VI were prepared by 4 methods. Method A. VII (82 g.) covered with 250 ml. SOCl<sub>2</sub>, kept 15 min. at room temperature, and refluxed 1 hr. gave 71 g. acid chloride (XI) containing 1 mole C<sub>6</sub>H<sub>6</sub> of crystallization, m. 106-8°, which heated several hrs. in vacuo (0.5 mm.) at 90° gave XI, m. 135-7°. XI.C<sub>6</sub>H<sub>6</sub> (50.2 g.) in 90 ml. Me<sub>2</sub>CO treated dropwise with 10 g. N-methylpiperazine (XII) in 30 cc. Me<sub>2</sub>CO with stirring (the temperature rose to approx. 50°) and the mixture stirred 1 hr. gave 44.8 g. I (X = Y = Z = 4-Cl, R = Me) HCl salt (XIIa.HCl), decomposed 259-63°. Method B. Xa (30.9 g.) covered with 15 ml. C<sub>6</sub>H<sub>6</sub>, 26.2 g. SOCl<sub>2</sub>, and 0.5 ml. HCONMe<sub>2</sub>, the mixture kept 30 min. (gas evolution accompanied by dissoln. occurred), the solution heated a short time at 40° and evaporated in vacuo, the residual oily acid chloride dissolved in 40 ml. Me<sub>2</sub>CO, 10.6 g. XII added dropwise, and the mixture stirred 1 hr. and evaporated in vacuo gave 33 g. V (X = Y = 4-Cl, X' = Y' = H, R = Me), m. 75-7°. Method C. To a mixture of 14.6 g. (4-MeC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>C:CHCMe:CHCO<sub>2</sub>H, 200 ml. dioxane, and 5 g. Et<sub>3</sub>N was added 5.4 g. ClCO<sub>2</sub>Et at -10 to 0° with stirring, the mixture stirred 10 min., treated dropwise with 5 g. XII in 20 ml. dioxane with cooling and stirring, and stirred 1 hr. at 0° and 3 hrs. at room temperature to give 8 g. VI (X = Y = 4-Me, X' = Y' = H, R = Me), m. 127°. I (X = Y = Z = 4-Cl, R = CH<sub>2</sub>Ph) HCl salt (30 g.) in 250 ml. iso-PrOH hydrogenated over Pd-C at 50° until the calculated amount H was absorbed (several hrs.) gave I (X = Y = Z = 4-Cl, R = H), m. 167-9° (EtOAc-ligroine). The I listed in the first table were thus prepared. The II listed in the 2nd table were also prepared. The III listed in the 3rd table were prepared. X, X', Y, Y', R, method, m.p., m.p. HCl salt, m.p. corresponding carboxylic acid; 4-Cl, H, 4-Cl, H, Me, A, 124-5°, 238-40°, 158-60°; 3-Cl, 4-Cl, 4-Cl, H, Me, A, --, 166-8°, 150-3°; 3-Cl, 4-Cl, 3-Cl, 4-Cl, Me, A, --, 241-3°, 164-7°; 2-Cl, 4-Cl, 4-Cl, H, Me, A, 160-2°, 188-90° (decomposition), 157-60°; 4-Me, H, 4-Cl, H, Me, A, --, 198-9°, 208-10°; 4-OMe, H, 4-Cl, H, Me, A, --, 196-8°, 219-21°; 4-Cl, H, 4-Cl, H, CH<sub>2</sub>Ph, A, --, 246-8°, 158-60°; 4-Cl, H, 4-Cl, H, iso-Pr, B, 208-10° (maleate), --, 158-60°; 4-Cl, H, 4-Cl, H, CH<sub>2</sub>CH<sub>2</sub>NEt<sub>2</sub>, B, --, 244-7° (decomposition), 158-60°; X, X', Y, Y', R', method, m.p., m.p. HCl salt, m.p. maleate, m.p. corresponding carboxylic acid; 4-Cl, H, 4-Cl, H, H, B, 134°, --, 173-5°, 125-7°; 3-Cl, 4-Cl, 4-Cl, H, H, B, 134-7°, --, 143-5°, 139-42°; 3-Cl, 4-Cl, 3-Cl, 4-Cl, H, A, 141-2°, 251-2°, --, 149-51°; 4-Cl, H, 4-Cl, H, Et, B, 136-9°, --, 201-3°, 170-2°; 4-Me, H, 4-Cl, H, H, B, 146-7°, 170-2°, --, 123-5°; 4-OMe, H, 4-Cl, H, H, B, --, 185-6°, --, 119-21°; X, X',

Y, Y', R, method, m.p., m.p. HCl salt, m.p. maleate, m.p. corresponding carboxylic acid; 4-Cl, H, 4-Cl, H, Me, B, 75-7°, --, 140-1°, 124-6°; 3-Cl, 4-Cl, 3-Cl, 4-Cl, Me, A, 114-16°, 186-7°, --, 117°; 2-Cl, 4-Cl, 2-Cl, 4-Cl, Me, A, 111-13°, 212-14°, --, 155-7°; 4-Cl, H, 4-Cl, H, CH<sub>2</sub>Ph, B, 116-18°, 187-9°, --, 124-6°; 4-Cl, H, 4-Cl, H, H, D, --, --; 144-5°, --; 4-NO<sub>2</sub>, H, 4-NO<sub>2</sub>, H, Me (XIV), A, 126-7°, 200-1°, --, 184-5°; 2-NO<sub>2</sub>, H, 2-NO<sub>2</sub>, H, Me, A, 113-14°, 180-2°, --, 149°; 4-NH<sub>2</sub>, H, 4-NO<sub>2</sub>, H, Me, (by reduction of XIV), --, 259-60°, --, --; , X, X', Y, R, method, m.p., m.p. HCl salt, m.p. corresponding carboxylic acid; 4-Cl, H, 4-Cl, Me, B, 165°, 228°, 175°; 3-Cl, 4-Cl, H, Me, B, 106°, 193°, 179°; 3-Cl, 4-Cl, 4-Cl, Me, B, 128-30°, 216° (decomposition), 181° (decomposition); 3-Cl, 5-Cl, 4-Cl, Me, B, 96°, 196°, 181°; 4-Cl, H, 4-Br, Me, B, 154°, 236°, 190°; 4-Br, H, 4-Br, Me, B, 152°, 228°, 192°; 2-Cl, H, 4-Cl, Me, B, 137°, 223°, 138°; 2-Cl, 4-Cl, 4-Cl, Me, B, --, 208°, 147°; 4-Me, H, 4-Cl, Me, B, 143°, 202°, 201°; 4-Me, H, 4-Me, Me, C, 127°, 206°, 206°; 4-OMe, H, 4-OMe, Me, C, --, 196-7°, 178° (decomposition); 4-ClC<sub>6</sub>H<sub>4</sub>, H, 4-Cl, Me, C, --, 210°, 163°; 4-Me, H, 2-Me, Me, C, --, 218°, 198°; 4-Cl, H, 2-Me, Me, B, 115°, 231°, 139°; 4-ClC<sub>6</sub>H<sub>4</sub>, H, 4-Cl, Me, B, --, 230°, 197°; 2-Cl, 5-Me, 4-Cl, Me, B, --, 204°, 170°; 2-Cl, 5-Me, 4-Me, Me, B, --, 200°, 177°; 3-Cl, 5-Me, 4-Me, Me, C, --, 215°, 188°; 3-Cl, 5-Me, 4-Cl, Me, C, --, 222°, 164°; 4-Cl, H, H, Me, C, --, 206°, 147°; 4-Cl, H, 4-OMe, Me, C, --, 206°, 174°; 2-Cl, H, 4-OMe, Me, C, 126°, 165°, 145°; 4-Me, H, 4-OMe, Me, C, --, 192°, 189°; 4-Cl, H, 4-F, Me, C, 138°, 216°, 189°; 3-Me, 4-Cl, 4-Cl, Me, C, --, 224°, 171°; 4-Cl, H, 4-Cl, Et, B, --, 236°, 175°; 4-Cl, H, 4-Cl, Pr, B, --, 211°, 175°; 4-Cl, H, 4-Cl, CH<sub>2</sub>Ph, B, --, 228°, 175°; 4-Cl, H, 4-Cl, CH<sub>2</sub>CH<sub>2</sub>OH, B, --, 187°, 175°; 4-Cl, H, 4-Cl, CH<sub>2</sub>CH<sub>2</sub>OMe, B, --, 185°, 175°; 4-Cl, H, 4-Cl, CH<sub>2</sub>CH<sub>2</sub>NEt<sub>2</sub>, B, --, 222°, 175°; The IV listed in the 4th table were prepared The V listed in the 5th table were prepared The VI listed in the 6th table were prepared The relation between structure and activity is briefly discussed. Because of its remarkable properties, XIIa.HCl (Hetolin) will be the 1st specific preparation against D. dendriticum to be introduced into the veterinary armamentarium.

IT 3921-49-1P, Piperazine, 1-[p-amino- $\alpha$ -(p-aminobenzyl)hydrocinnamoyl]-4-methyl-, hydrochloride (preparation of)  
 RN 3921-49-1 HCAPLUS  
 CN Piperazine, 1-[p-amino- $\alpha$ -(p-aminobenzyl)hydrocinnamoyl]-4-methyl-, hydrochloride (7CI, 8CI) (CA INDEX NAME)



● HCl

CC 37 (Heterocyclic Compounds (One Hetero Atom))  
 IT 1610-59-9P, Hydrocinnamic acid, o-nitro- $\alpha$ -(o-nitrobenzyl)-  
 1610-60-2P, Piperazine, 1-methyl-4-[o-nitro- $\alpha$ -(o-nitrobenzyl)hydrocinnamoyl]- 1610-61-3P, Hydrocinnamic acid, p-nitro- $\alpha$ -(p-nitrobenzyl)- 1610-62-4P, Piperazine, 1-methyl-4-[p-nitro- $\alpha$ -(p-nitrobenzyl)hydrocinnamoyl]- 1610-63-5P, Piperazine, 1-benzyl-4-[p-chloro- $\alpha$ -(p-chlorobenzyl)hydrocinnamoyl]- 1610-64-6P, Hydrocinnamic acid, 2,4-dichloro- $\alpha$ -(2,4-dichlorobenzyl)- 1610-65-7P, Piperazine, 1-[2,4-dichloro- $\alpha$ -(2,4-dichlorobenzyl)hydrocinnamoyl]-4-methyl- 1610-66-8P, Hydrocinnamic acid, 3,4-dichloro- $\alpha$ -(3,4-dichlorobenzyl)- 1610-67-9P, Piperazine, 1-[3,4-dichloro- $\alpha$ -(3,4-dichlorobenzyl)hydrocinnamoyl]-4-methyl- 1610-68-0P, Hydrocinnamic acid, p-chloro- $\alpha$ -(p-chlorobenzyl)- 1610-69-1P, Piperazine, 1-[p-chloro- $\alpha$ -(p-chlorobenzyl)hydrocinnamoyl]-4-methyl- 1610-70-4P, Propionic acid, 2-(p-chlorophenyl)-3-(p-methoxyphenyl)- 1610-71-5P, Propionic acid, 2-(p-chlorophenyl)-3-p-tolyl- 1610-72-6P, Piperazine, 1-[2-(p-chlorophenyl)-3-p-tolylpropionyl]-4-methyl- 1610-73-7P, Piperazine, 1-[2,3-bis(p-chlorophenyl)valeryl]-4-methyl- 1610-74-8P, Propionic acid, 2,3-bis(3,4-dichlorophenyl)- 1610-75-9P, Piperazine, 1-[2,3-bis(3,4-dichlorophenyl)propionyl]-4-methyl- 1610-76-0P, Propionic acid, 2-(p-chlorophenyl)-3-(3,4-dichlorophenyl)- 1610-77-1P, Piperazine, 1-[2-(p-chlorophenyl)-3-(3,4-dichlorophenyl)propionyl]-4-methyl- 1610-78-2P, Piperazine, 1-[2,3-bis(p-chlorophenyl)propionyl]-4-methyl- 1743-53-9P, Valeric acid, 2,3-bis(p-chlorophenyl)- 1743-54-0P, Propionic acid, 2,3-bis(p-chlorophenyl)- 1815-57-2P, Piperazine, 1-[5-(p-chlorophenyl)-5-(p-fluorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl- 1933-60-4P, Piperazine, 1-benzyl-4-(m-chloro- $\beta,\beta$ -diphenylhydrocinnamoyl)-, hydrochloride 1947-44-0P, Piperazine, 1-[2,4-dichloro- $\beta$ -(p-chlorophenyl)hydrocinnamoyl]-4-methyl-, hydrochloride 1947-45-1P, Piperazine, 1-benzyl-4-(3,3,3-triphenylpropionyl)-, hydrochloride 1949-03-7P, Piperazine, 1-[5-(p-chlorophenyl)-3-methyl-5-phenyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 1949-04-8P, Piperazine, 1-[5-(p-chlorophenyl)-5-(6-chloro-m-tolyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 1949-05-9P, Piperazine, 1-methyl-4-(3-methyl-5-o-tolyl-5-p-tolyl-2,4-pentadienoyl)-, hydrochloride 1949-06-0P, Piperazine, 1-[ $\beta,\beta$ -bis(p-bromophenyl)-p-chlorohydrocinnamoyl]-4-methyl-,

maleate 1949-07-1P, Piperazine, 1-methyl-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 1949-94-6P, 1-Piperazineethanol, 4-[5,5-bis(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-, hydrochloride 1949-95-7P, Piperazine, 1-benzyl-4-[5,5-bis(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-, hydrochloride 1949-96-8P, Piperazine, 1-[5-(p-chlorophenyl)-5-(4-chloro-m-tolyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 1949-97-9P, Piperazine, 1-[5-(p-chlorophenyl)-5-(p-fluorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 1949-98-0P, Piperazine, 1-[5-(o-chlorophenyl)-5-(p-methoxyphenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 1949-99-1P, Piperazine, 1-[5-(p-chlorophenyl)-3-methyl-5-p-tolyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 1950-00-1P, Piperazine, 1-[2,3-bis(p-chlorophenyl)acryloyl]-4-isopropyl-, maleate 1950-01-2P, Piperazine, 1-benzyl-4-[2,3-bis(p-chlorophenyl)acryloyl]-, hydrochloride 1950-02-3P, Piperazine, 1-[2-(p-chlorophenyl)-3-(2,4-dichlorophenyl)acryloyl]-4-methyl-, hydrochloride 1957-36-4P, Piperazine, 1-[p-chloro- $\beta$ , $\beta$ -bis(p-fluorophenyl)hydrocinnamoyl]-4-methyl-, hydrochloride 1961-21-3P, Piperazine, 1-benzyl-4-[ $\beta$ , $\beta$ -bis(p-fluorophenyl)hydrocinnamoyl]-, hydrochloride 1996-05-0P, Propionic acid, 3-(p-chlorophenyl)-3,3-bis(p-fluorophenyl)- 1996-11-8P, Propionic acid, 3,3-bis(p-fluorophenyl)-3-phenyl- 2023-42-9P, 2,4-Pentadienoic acid, 5-(p-chlorophenyl)-5-(p-fluorophenyl)-3-methyl- 2090-41-7P, Piperazine, 1-[5-(o-chlorophenyl)-5-(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2090-42-8P, Piperazine, 1-[5,5-bis(p-bromophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2090-43-9P, Piperazine, 1-[5-(p-chlorophenyl)-5-(3,5-dichlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2090-44-0P, Piperazine, 1-[5-(p-chlorophenyl)-5-(3,4-dichlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2090-45-1P, Piperazine, 1-[5-(3,4-dichlorophenyl)-3-methyl-5-phenyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2166-72-5P, 2,4-Pentadienoic acid, 5-(o-chlorophenyl)-5-(p-chlorophenyl)-3-methyl- 2166-73-6P, Piperazine, 1-[5-(o-chlorophenyl)-5-(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl- 2166-74-7P, 2,4-Pentadienoic acid, 5,5-bis(p-bromophenyl)-3-methyl- 2166-75-8P, Piperazine, 1-[5,5-bis(p-bromophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl- 2166-76-9P, 2,4-Pentadienoic acid, 5-(p-bromophenyl)-5-(p-chlorophenyl)-3-methyl- 2166-77-0P, Piperazine, 1-[5-(p-bromophenyl)-5-(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl- 2166-78-1P, 2,4-Pentadienoic acid, 5-(p-chlorophenyl)-5-(3,5-dichlorophenyl)-3-methyl- 2166-79-2P, Piperazine, 1-[5-(p-chlorophenyl)-5-(3,5-dichlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl- 2166-80-5P, 2,4-Pentadienoic acid, 5-(p-chlorophenyl)-5-(3,4-dichlorophenyl)-3-methyl- 2166-81-6P, Piperazine, 1-[5-(p-chlorophenyl)-5-(3,4-dichlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl- 2166-83-8P, Piperazine, 1-[5-(3,4-dichlorophenyl)-3-methyl-5-phenyl-2,4-pentadienoyl]-4-methyl- 2166-84-9P, 2,4-Pentadienoic acid, 5,5-bis(p-chlorophenyl)-3-methyl- 2166-85-0P, Piperazine, 1-[2-(p-chlorophenyl)-3-(2,4-dichlorophenyl)acryloyl]-4-methyl- 2166-86-1P, Acrylic acid, 2,3-bis(3,4-dichlorophenyl)- 2167-94-4P, Acrylic acid, 2-(p-chlorophenyl)-3-(3,4-dichlorophenyl)- 2167-97-7P, 1-Piperazinecarboxamide, N-allylthio-4-[3,3,3-tris(p-chlorophenyl)propionyl]- 2167-98-8P, Piperazine, 1-(piperidinocarbonyl)-4-[3,3,3-tris(p-chlorophenyl)propionyl]- 2167-99-9P, 1-Piperazinecarboxylic acid, 4-[3,3,3-tris(p-chlorophenyl)propionyl]-, ethyl ester 2168-00-5P, Piperazine, 1-ethyl-4-[3,3,3-tris(p-chlorophenyl)propionyl]- 2168-01-6P, Piperazine, 1-benzyl-4-[ $\beta$ , $\beta$ -bis(p-

chlorophenyl)hydrocinnamoyl]- 2168-04-9P, Piperazine,  
 1-[ $\beta,\beta$ -bis(p-chlorophenyl)-p-fluorohydrocinnamoyl]-4-methyl-  
 2168-05-0P, Propionic acid, 3,3-bis(p-bromophenyl)-3-(p-chlorophenyl)-  
 2168-06-1P, Propionic acid, 3,3,3-tris(p-chlorophenyl)- 2168-07-2P,  
 Propionic acid, 3,3-bis(p-chlorophenyl)-3-phenyl- 2168-08-3P,  
 Piperazine, 1-[ $\beta,\beta$ -bis(p-chlorophenyl)hydrocinnamoyl]-4-  
 methyl- 2168-09-4P, Propionic acid, 3-(p-chlorophenyl)-3,3-diphenyl-  
 2168-10-7P, Propionic acid, 3-(m-chlorophenyl)-3,3-diphenyl-  
 2168-53-8P, Piperazine, 1-[5,5-bis(p-chlorophenyl)-3-methyl-2,4-  
 pentadienoyl]-4-(2-methoxyethyl)-, hydrochloride 2168-54-9P,  
 Piperazine, 1-[5,5-bis(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-  
 propyl-, hydrochloride 2168-55-0P, Piperazine, 1-methyl-4-(3-methyl-  
 5,5-di-p-tolyl-2,4-pentadienoyl)-, hydrochloride 2168-56-1P,  
 Piperazine, 1-[5-(p-chlorophenyl)-5-(2,4-dichlorophenyl)-3-methyl-2,4-  
 pentadienoyl]-4-methyl-, hydrochloride 2168-57-2P, Piperazine,  
 1-[2-(p-chlorophenyl)-3-p-tolylacryloyl]-4-methyl-, hydrochloride  
 2172-48-7P, Malonic acid, bis(p-chlorobenzyl)-, dimethyl ester  
 2172-49-8P, Propionyl chloride, 3,3,3-tris(p-chlorophenyl)-  
 2172-50-1P, Propionitrile, 3,3-bis(p-chlorophenyl)- 2172-51-2P,  
 Propionitrile, 3,3,3-tris(p-chlorophenyl)- 2172-52-3P,  
 2,4-Pentadienoic acid, 5-(p-chlorophenyl)-5-(4-chloro-m-tolyl)-3-  
 methyl- 2172-54-5P, 2,4-Pentadienoic acid, 5-(p-methoxyphenyl)-3-  
 methyl-5-p-tolyl- 2172-55-6P, 2,4-Pentadienoic acid,  
 5-(o-chlorophenyl)-5-(p-methoxyphenyl)-3-methyl- 2172-56-7P,  
 Piperazine, 1-[5-(o-chlorophenyl)-5-(p-methoxyphenyl)-3-methyl-2,4-  
 pentadienoyl]-4-methyl- 2172-57-8P, 2,4-Pentadienoic acid,  
 5-(p-chlorophenyl)-5-(p-methoxyphenyl)-3-methyl- 2172-58-9P,  
 2,4-Pentadienoic acid, 5-(p-chlorophenyl)-3-methyl-5-phenyl-  
 2172-59-0P, 2,4-Pentadienoic acid, 5-(p-chlorophenyl)-5-(5-chloro-m-  
 tolyl)-3-methyl- 2172-60-3P, 2,4-Pentadienoic acid,  
 5-(5-chloro-m-tolyl)-3-methyl-5-p-tolyl- 2172-61-4P,  
 2,4-Pentadienoic acid, 5-(6-chloro-m-tolyl)-3-methyl-5-p-tolyl-  
 2172-62-5P, 2,4-Pentadienoic acid, 5-(p-chlorophenyl)-5-(6-chloro-m-  
 tolyl)-3-methyl- 2172-63-6P, 2,4-Pentadienoic acid,  
 5-(4'-chloro-4-biphenyl)-5-(p-chlorophenyl)-3-methyl- 2172-64-7P,  
 2,4-Pentadienoic acid, 3-methyl-5-o-tolyl-5-p-tolyl- 2172-65-8P,  
 2,4-Pentadienoic acid, 5-[p-(p-chlorophenoxy)phenyl]-5-(p-  
 chlorophenyl)-3-methyl- 2172-66-9P, 2,4-Pentadienoic acid,  
 3-methyl-5,5-di-p-tolyl- 2172-67-0P, Piperazine,  
 1-methyl-4-(3-methyl-5,5-di-p-tolyl-2,4-pentadienoyl)- 2172-68-1P,  
 2,4-Pentadienoic acid, 5-(p-chlorophenyl)-3-methyl-5-p-tolyl-  
 2172-69-2P, Piperazine, 1-[5-(p-chlorophenyl)-3-methyl-5-p-tolyl-2,4-  
 pentadienoyl]-4-methyl- 2172-70-5P, 2,4-Pentadienoic acid,  
 5-(p-chlorophenyl)-5-(2,4-dichlorophenyl)-3-methyl- 2177-73-3P,  
 Piperazine, 1-[5,5-bis(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-  
 methyl- 2177-74-4P, Acrylic acid, 2-(p-chlorophenyl)-3-(p-  
 methoxyphenyl)- 2177-75-5P, Acrylic acid, 2-(p-chlorophenyl)-3-p-  
 tolyl- 2177-76-6P, Acrylic acid, 2-(p-chlorophenyl)-3-(2,4-  
 dichlorophenyl)- 2274-52-4P, Piperazine, 1-[5,5-bis(p-methoxyphenyl)-  
 3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2274-53-5P,  
 Piperazine, 1-[ $\beta,\beta$ -bis(p-chlorophenyl)-p-  
 fluorohydrocinnamoyl]-4-methyl-, hydrochloride 2390-20-7P,  
 1-Piperazinebutyric acid,  $\gamma$ -oxo-4-[3,3,3-tris(p-  
 chlorophenyl)propionyl]- 2390-21-8P, Piperazine,  
 1-[ $\beta,\beta$ -bis(p-bromophenyl)-p-chlorohydrocinnamoyl]-4-methyl-  
 2390-22-9P, Piperazine, 1-methyl-4-[3,3,3-tris(p-  
 chlorophenyl)propionyl]- 2390-71-8P, Piperazine,  
 1-[5-(5-chloro-m-tolyl)-3-methyl-5-p-tolyl-2,4-pentadienoyl]-4-methyl-  
 , hydrochloride 2390-72-9P, Piperazine, 1-[5-[p-(p-  
 chlorophenoxy)phenyl]-5-(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-

methyl-, hydrochloride 2394-52-7P, Piperazine, 1-[5,5-bis(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-[2-(diethylamino)ethyl]-, hydrochloride 2394-53-8P, Piperazine, 1-[5,5-bis(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-ethyl-, hydrochloride 2394-55-0P, Piperazine, 1-[2-(p-chlorophenyl)-3-(p-methoxyphenyl)acryloyl]-4-methyl-, hydrochloride 2459-67-8P, Piperazine, 1-[5,5-bis(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2459-68-9P, Piperazine, 1-[2,3-bis(3,4-dichlorophenyl)acryloyl]-4-methyl-, hydrochloride 2459-69-0P, Piperazine, 1-[2-(p-chlorophenyl)-3-(3,4-dichlorophenyl)acryloyl]-4-methyl-, hydrochloride 2459-70-3P, Piperazine, 1-[3,3-bis(p-chlorophenyl)propionyl]-4-methyl-, hydrochloride 2459-71-4P, 1-Piperazinepropionic acid, 4-[3,3,3-tris(p-chlorophenyl)propionyl]-, methyl ester, hydrochloride 2459-72-5P, Piperazine, 1-[3-(dimethylamino)propyl]-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2459-73-6P, Piperazine, 1-[2-(diethylamino)ethyl]-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2459-74-7P, Piperazine, 1-(methoxymethyl)-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2459-75-8P, Piperazine, 1-(2-methoxyethyl)-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2459-76-9P, Piperazine, 1-butyl-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2459-77-0P, Piperazine, 1-propyl-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2459-78-1P, 1-Piperazineethanol, 4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2459-79-2P, Piperazine, 1-benzyl-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2459-80-5P, Piperazine, 1-[ $\beta,\beta$ -bis(p-chlorophenyl)hydrocinnamoyl]-, maleate 2459-81-6P, Piperazine, 1-(m-chloro- $\beta,\beta$ -diphenylhydrocinnamoyl)-4-methyl-, maleate 2540-35-4P, Propionic acid, 3,3-bis(p-chlorophenyl)- 2586-16-5P, Piperazine, 1-[ $\beta,\beta$ -bis(p-fluorophenyl)hydrocinnamoyl]-, hydrochloride 2611-73-6P, Piperazine, 1-[5-(p-methoxyphenyl)-3-methyl-5-p-tolyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2636-34-2P, Piperazine, 1-[5-(p-chlorophenyl)-5-(5-chloro-m-tolyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2636-35-3P, Piperazine, 1-[5-(6-chloro-m-tolyl)-3-methyl-5-p-tolyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2636-36-4P, Piperazine, 1-[5-(4'-chloro-4-biphenyl)-5-(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2636-37-5P, Piperazine, 1-[5-(p-chlorophenyl)-3-methyl-5-o-tolyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2672-35-7P, Piperazine, 1-isopropyl-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2672-36-8P, Piperazine, 1-ethyl-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2779-83-1P, Piperazine, 1-[p-chloro- $\beta$ -(p-methoxyphenyl)hydrocinnamoyl]-4-methyl-, hydrochloride 2779-84-2P, Piperazine, 1-[2,4-dichloro- $\beta$ -(3,4-dichlorophenyl)hydrocinnamoyl]-4-methyl-, hydrochloride 2780-77-0P, Piperazine, 1-[3,3,3-tris(p-chlorophenyl)propionyl]- 2881-91-6P, Piperazine, 1-[5-(p-chlorophenyl)-5-(p-methoxyphenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 2897-99-6P, 1-Piperazinepropionitrile, 4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2949-31-7P, 2,4-Pentadienoic acid, 5-(p-chlorophenyl)-3-methyl-5-o-tolyl-2949-32-8P, Piperazine, 1-[5-(p-chlorophenyl)-3-methyl-5-o-tolyl-2,4-pentadienoyl]-4-methyl- 2950-05-2P, Piperazine, 1-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 2950-07-4P, Piperazine, 1-[ $\beta,\beta$ -bis(p-chlorophenyl)hydrocinnamoyl]-4-methyl-, hydrochloride 2950-08-5P, Piperazine, 1-(p-chloro- $\beta,\beta$ -diphenylhydrocinnamoyl)-4-methyl-, hydrochloride 3149-77-7P, Piperazine, 1-[5-(p-bromophenyl)-5-(p-chlorophenyl)-3-methyl-2,4-pentadienoyl]-4-methyl-, hydrochloride 3712-21-8P, Piperazine, 1-cyclohexyl-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride

3921-49-1P, Piperazine, 1-[p-amino- $\alpha$ -(p-aminobenzyl)hydrocinnamoyl]-4-methyl-, hydrochloride 3921-50-4P, Piperazine, 1-methyl-4-[o-nitro- $\alpha$ -(o-nitrobenzyl)hydrocinnamoyl]-, hydrochloride 3921-51-5P, Piperazine, 1-methyl-4-[p-nitro- $\alpha$ -(p-nitrobenzyl)hydrocinnamoyl]-, hydrochloride 3921-52-6P, Piperazine, 1-benzyl-4-[p-chloro- $\alpha$ -(p-chlorobenzyl)hydrocinnamoyl]-, hydrochloride 3921-53-7P, Piperazine, 1-[3,4-dichloro- $\alpha$ -(3,4-dichlorobenzyl)hydrocinnamoyl]-4-methyl-, hydrochloride 3921-54-8P, Piperazine, 1-[2-(p-chlorophenyl)-3-(p-methoxyphenyl)propionyl]-4-methyl-, hydrochloride 3921-55-9P, Piperazine, 1-[2-(p-chlorophenyl)-3-p-tolylpropionyl]-4-methyl-, hydrochloride 3921-56-0P, Piperazine, 1-[2,3-bis(p-chlorophenyl)valeryl]-4-methyl-, maleate 3921-57-1P, Piperazine, 1-[2,3-bis(3,4-dichlorophenyl)propionyl]-4-methyl-, hydrochloride 3921-58-2P, Piperazine, 1-[2,3-bis(p-chlorophenyl)propionyl]-4-methyl-, maleate 3985-92-0P, Piperazine, 1-[2-(p-chlorophenyl)-3-(3,4-dichlorophenyl)propionyl]-4-methyl-, maleate 4018-76-2P, Piperazine, 1-[p-chloro- $\alpha$ -(p-chlorobenzyl)hydrocinnamoyl]-, maleate 4192-84-1P, Piperazine, 1-[2,4-dichloro- $\alpha$ -(2,4-dichlorobenzyl)hydrocinnamoyl]-4-methyl-, hydrochloride 4467-32-7P, 2,4-Pentadienoic acid, 5-(2,4-dichlorophenyl)-5-hydroxy-3-methyl-,  $\delta$ -lactone 4598-91-8P, Piperazine, 1-[p-chloro- $\alpha$ -(p-chlorobenzyl)hydrocinnamoyl]-4-methyl-, maleate 19618-30-5P, Piperazine, 1-[3,3-bis(p-chlorophenyl)acryloyl]-4-methyl- 19618-36-1P, Acrylic acid, 3,3-bis(p-chlorophenyl)- 33174-07-1P, Piperazine, 1-isobutyl-4-[3,3,3-tris(p-chlorophenyl)propionyl]-, hydrochloride 98438-67-6P, Piperazine, 1-[ $\beta$ , $\beta$ -bis(p-fluorophenyl)hydrocinnamoyl]-4-methyl-, hydrochloride 99950-56-8P, Piperazine, 1-[3,3-bis(p-chlorophenyl)acryloyl]-4-methyl-, hydrochloride 102218-34-8P, Piperazine, 1-methyl-4-(3,3,3-triphenylpropionyl)-, hydrochloride 103799-29-7P, Piperazine, 1-[2,3-bis(p-chlorophenyl)acryloyl]-4-[2-(diethylamino)ethyl]-, hydrochloride  
(preparation of)

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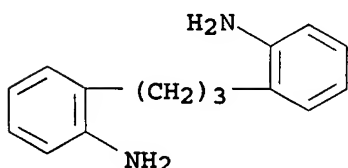
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GI For diagram(s), see printed CA Issue.  
AB 1,3-Bis(o-aminophenyl)propane diphosphate (I) (39.4 g.) was heated, with stirring, 1.5 hrs. at 290°, cooled, treated with 150 ml.

aqueous p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H (II) (2.5 moles/ l.) and 150 ml. Et<sub>2</sub>O, stirred to dissoln. (2 hrs.), the Et<sub>2</sub>O layer washed with 30 ml. aqueous II solution, dried (K<sub>2</sub>CO<sub>3</sub>), and evaporated, and the residual oil distilled to give 4.6 g. III, b.p. 140°, m. 55-7°. I, m. 230°, was prepared by the action of H<sub>3</sub>PO<sub>4</sub> in MeOH on 1,3-(o-H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>C<sub>3</sub>H<sub>6</sub> (IV). IV, m. 70-1°, was prepared by refluxing 1,3-(o-AcNHC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>C<sub>3</sub>H<sub>6</sub> (V) with HCl in glycol. V, m. 262°, was obtained by hydrogenation of 1,3-bis(o-acetamidophenyl)1-chloropropane (VI) in HCONMe<sub>2</sub> over Pd-C. VI, m. 165°, was obtained by the action of SOCl<sub>2</sub> on the 1-OH analog (VII) of VI in cold CHCl<sub>3</sub>. VII, m. 228°, was prepared by the action of Ac<sub>2</sub>O on the o-NH<sub>2</sub> analog (VIII) of VII in EtOH. VIII, m. 1045°, was obtained by the hydrogenation of the o-NO<sub>2</sub> analog (IX) of VIII in MeOH over PtO<sub>2</sub>; IX, m. 101°, was prepared by the action of KBH<sub>4</sub> on 2,2'-dinitrochalcone in aqueous MeOH. The title compds. had useful fungicidal and anthelmintic properties, and were useful as intermediates for the preparation of therapeutically active substances.

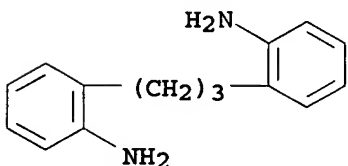
IT 21598-82-3P, Aniline, 2,2'-trimethylenedi- 92869-74-4P  
, Aniline, 2,2'-trimethylenedi-, diphosphate  
(preparation of)  
RN 21598-82-3 HCAPLUS  
CN Benzenamine, 2,2'-(1,3-propanediyl)bis- (CA INDEX NAME)



RN 92869-74-4 HCAPLUS  
CN Aniline, 2,2'-trimethylenedi-, diphosphate (7CI) (CA INDEX NAME)

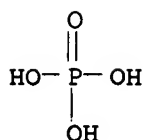
CM 1

CRN 21598-82-3  
CMF C15 H18 N2



CM 2

CRN 7664-38-2  
CMF H3 O4 P



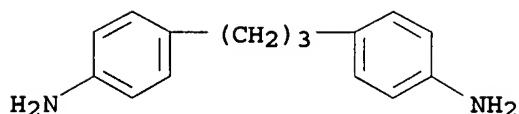
IC C07D  
 CC 37 (Heterocyclic Compounds (One Hetero Atom))  
 IT 1639-73-2P, Dibenz[b,g]azocine, 5,6,7,12-tetrahydro- 21598-81-2P,  
 Acetanilide, 2',2'''-trimethylenebis- 21598-82-3P, Aniline,  
 2,2'-trimethylenedi- 21606-40-6P, 1-Propanol, 1,3-bis(o-aminophenyl)-  
 21606-41-7P, Acetanilide, 2',2'''-(1-hydroxytrimethylene)bis-  
 21606-42-8P, Acetanilide, 2',2'''-(1-chlorotrimethylene)bis-  
 21720-48-9P, 2-Propen-1-ol, 1,3-bis(o-nitrophenyl)-  
 92869-74-4P, Aniline, 2,2'-trimethylenedi-, diphosphate  
 (preparation of)

L26 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1963:53847 HCAPLUS  
 DOCUMENT NUMBER: 58:53847  
 ORIGINAL REFERENCE NO.: 58:9256c-d  
 TITLE: Polyimides for films and coatings  
 PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.  
 SOURCE: 12 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Unavailable  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 903272		19620815	GB 1962-3762	19600311

PRIORITY APPLN. INFO.: US <-- 19590401  
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ED Entered STN: 22 Apr 2001  
 AB Diamines are treated with dianhydrides to form poly(amide-acids) which  
 are converted to polyimides. Polyimides can be cast into films.  
 Thus, 20 g. 4-(4-H2NC6H4CH2)C6H4NH2 is dissolved in 150 ml. HCONMe2,  
 22 g. pyromellitic dianhydride is added in small portions at 15% the  
 mixture is diluted with 50 ml. HCONMe2, a film is cast from the mixture, the  
 film is dried for 15 min. at 120° under N, and then heated to  
 300° in a vacuum oven to give the polyimide. Similarly prepared  
 are polyimides from pyromellitic dianhydride and the following  
 diamines: x,y-bis(4-aminophenyl)propane, (4-H2NC6H4)2O, (4-H2NC6H4)S,  
 4-(4-H2NC6H4CH4)C6H4NH2 and 4-(4-H2NC6H4)C6H4NH2,  
 4-(4-H2-NC6H4SO2)C6H4NH2, 3-H2NC6H4NH2, and a mixture of 4-H2NC6- H4NH2  
 and 3-H2NC6H4NH2. Also prepared are polyimides from (4-H2NC6H4)2O and  
 2,2-bis(3,4-dicarboxyphenyl)propane dianhydride, and from  
 (4-H2NC6H4)2O and the dianhydride of bis(3,4-dicarboxyphenyl) ether.  
 IT 2767-73-9, Aniline, 4,4'-trimethylenedi-  
 (reaction with tetracarboxylic dianhydrides, for polyimides)  
 RN 2767-73-9 HCAPLUS  
 CN Benzenamine, 4,4'-(1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



CC 45 (Synthetic High Polymers)  
 IT 80-08-0, Aniline, 4,4'-sulfonyldi- 101-77-9, Aniline,  
 4,4'-methylenedi- 101-80-4, Aniline, 4,4'-oxydi- 106-50-3,  
 p-Phenylenediamine 108-45-2, m-Phenylenediamine 139-65-1, Aniline,  
 4,4'-thiodi- 2767-73-9, Aniline, 4,4'-trimethylenedi-  
 (reaction with tetracarboxylic dianhydrides, for polyimides)

L26 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1962:25520 HCAPLUS

DOCUMENT NUMBER: 56:25520

ORIGINAL REFERENCE NO.: 56:4900i,4901a-c

TITLE: Substantive properties of symmetrical  
 diphenylalkane disazo dyes

AUTHOR(S): Tsekhanskii, R. S.

SOURCE: Uchenye Zapiski, Chuvashskii Gosudarst. Pedagog.  
 Inst. im. I. Ya. Yakovleva (1959), (No.  
 7), 49-59

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

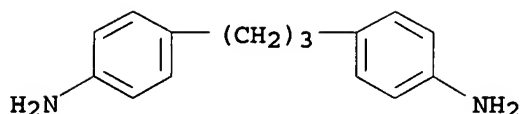
ED Entered STN: 22 Apr 2001

AB A mixture of 100 ml. H<sub>2</sub>O, 1 ml. AcOH, and 40 g. cast iron filings was heated with stirring for 10-15 min. on a steam bath; a suspension of 28.6 g. 4,4'-dinitro-1,3-diphenylpropane in 100 ml. EtOH was added and the mixture boiled for 1 hr.; boiling was continued after addition of 5 g. cast iron dust until disappearance of yellow color upon testing with alc. NaOH. A small amount of (NH<sub>4</sub>)<sub>2</sub>S was added and the hot mixture filtered; recrystn. from 20% EtOH yielded 21 g. 4,4'-diamino-1,3-diphenylpropane (I), m. 107°. Similarly prepared were 4,4'-diaminodiphenylmethane (II), 2,4'-diaminodiphenylmethane (II), and 4,4'-diamino-1,2-diphenylethane (IV). Bis(p-nitrobenzoyl) derivs. of I to IV were prepared by mixing equivalent quantities of diamine and p-nitrobenzoyl chloride in benzene in the presence of NaHCO<sub>3</sub>; the products were recrystd. from pyridine. The yields and m.p. of these derivs. were 97.3%, 270°; 90.8%, 244-5°; 88.2%, 316-17°; and 78.0%, 246°, resp. Reduction in neutral medium gave 82.6% 4,4'-bis(p-aminobenzamido)diphenylmethane (V), m. 251°; 67% 2,4'-bis(p-aminobenzamido)diphenylmethane (VI), m. 136-7°; 83.3% 4,4'-bis(p-aminobenzamido)-1,2-diphenylethane (VII), m. 189-90°; and 76% 4,4'-bis(p-aminobenzamido)-1,3-diphenylpropane (VIII), m. 213-14°. The diamines: benzidine, II, V, VI, VII, and VIII were tetrazotized and coupled with the Na salt of 3-methyl-1-(4-sulfophenyl)-5-pyrazolone to give disazo dyes. The substantivities were expressed as % of dye adsorbed on cotton fibers from equimolal solns. The color and substantivity of the successive dyes were: dark brown, 67.2%; orange, 30.4%; dark orange, 61.6%; red-orange, 21.4%; orange, 9.8%; and orange, 11.3%.

IT 2767-73-9P, Aniline, 4,4'-trimethylenedi-  
 (preparation of)

RN 2767-73-9 HCAPLUS

CN Benzenamine, 4,4'-(1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



CC 44 (Dyes)  
 IT 2767-73-9P, Aniline, 4,4'-trimethylenedi- 34062-66-3P,  
 Benzanilide, 4',4'''-methylenebis[4-amino- 34062-80-1P, Benzanilide,  
 4',4'''-methylenebis[4-nitro- 42917-84-0P, Benzenesulfonic acid,  
 4,4'-[4,4'-biphenylenebis[azo(3-methyl-5-oxo-2-pyrazoline-4,1-  
 diyl)]]di-, disodium salt 88870-15-9P, Benzanilide,  
 4',4'''-ethylenebis[4-amino- 98542-70-2P, Benzanilide,  
 2',4'''-methylenebis[4-amino- 98542-73-5P, Benzanilide,  
 2',4'''-methylenebis[4-nitro- 98878-77-4P, Benzanilide,  
 4',4'''-trimethylenebis[4-amino- 105521-22-0P, Benzenesulfonic acid,  
 4,4'-[methylenebis[p-phenyleneazo(3-methyl-5-oxo-2-pyrazoline-4,1-  
 diyl)]]di-, disodium salt 106303-67-7P, Benzenesulfonic acid,  
 4,4'-[trimethylenebis[p-phenyleneiminocarbonyl-p-phenyleneazo(3-methyl-  
 5-oxo-2-pyrazoline-4,1-diyl)]]di-, disodium salt 106764-88-9P,  
 Benzenesulfonic acid, 4,4'-[ethylenebis[p-phenyleneiminocarbonyl-p-  
 phenyleneazo(3-methyl-5-oxo-2-pyrazoline-4,1-diyl)]]di-, disodium salt  
 106991-94-0P, Benzanilide, 4',4'''-ethylenebis[4-nitro-  
 107136-81-2P, Benzenesulfonic acid, 4,4'-[methylenebis[p-  
 phenyleneiminocarbonyl-p-phenyleneazo(3-methyl-5-oxo-2-pyrazoline-4,1-  
 diyl)]]di-, disodium salt 107277-61-2P, Benzanilide,  
 4',4'''-trimethylenebis[4-nitro-  
 (preparation of)

L26 ANSWER 30 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1961:96728 HCAPLUS  
 DOCUMENT NUMBER: 55:96728  
 ORIGINAL REFERENCE NO.: 55:18199d-g  
 TITLE: Linear polyureas  
 PATENT ASSIGNEE(S): W. R. Grace & Co.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Unavailable  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 863297	----	19610322	GB 1959-11122	19590401

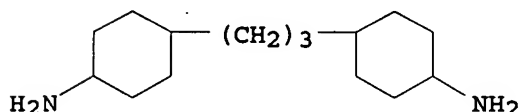
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ED Entered STN: 22 Apr 2001

AB High-mol.-weight, fiber-forming, linear, thermoplastic polyurea polymers may be formed from equimolar amts. of urea and alicyclic diamines. Thus, 4,4'-diaminodicyclohexylmethane (I) 63, urea 18, m-cresol 500, and H<sub>2</sub>O 100 g. were heated with stirring to 200° under N, and the reaction continued for 4 h. while NH<sub>3</sub>, H<sub>2</sub>O, and 300 g. m-cresol were distilled off, and then poured into 2000 g. MeOH kept at 60-80°. The polymer precipitated in colorless flocks, was centrifuged, suspended in MeOH, refluxed for 3 h., and then centrifuged to give 85% of theor. yield of a polyurea, m. 360°, relative viscosity 2.25 (in m-cresol). Similarly, homologs of I gave polyureas (derivative, % yield, m.p. and relative viscosity given): 3,3',5,5'-tetramethyl, 89, 270-80°, 1.42; 3,3'-dimethyl, 85%, 260-70°, 1.40; and 3,3'-diethyl, 97.5%, 255-6°, 1.45. Treating urea with 4,4'-diaminodicyclohexylpropane gave 95% polyurea,

m. 325-35°, relative viscosity 1.2. The polyurea made from 4,4'-bis(methylamino)dicyclohexylmethane (II) was obtained in quant. yield, m. 110-30°, relative viscosity 1.2. Polyureas made from mixts. of I and II had m.ps. directly proportional to the mole % of the 2 diamines in the mixture. The polyureas may also be prepared by bulk polymerization in which the components are melted together, and the adduct is crystallized from m-cresol.

IT 101540-42-5P, Cyclohexylamine, 4,4'-trimethylenebis-  
(in polyurea manufacture)  
RN 101540-42-5 HCAPLUS  
CN Cyclohexanamine, 4,4'-(1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



CC 31 (Synthetic Resins and Plastics)  
IT 60469-06-9P, Cyclohexylamine, 4,4'-methylenebis[N-methyl-  
101540-42-5P, Cyclohexylamine, 4,4'-trimethylenebis-  
(in polyurea manufacture)

L26 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1961:27829 HCAPLUS  
DOCUMENT NUMBER: 55:27829  
ORIGINAL REFERENCE NO.: 55:5462a-i, 5463a-h  
TITLE: Syntheses in the colchicine field  
AUTHOR(S): Williams, K. I. H.; Cremer, S. E.; Kent, F. W.;  
Sehm, E. S.; Tarbell, D. S.  
CORPORATE SOURCE: Univ. of Rochester, Rochester, NY  
SOURCE: Journal of the American Chemical Society (1960), 82, 3982-8  
CODEN: JACSAT; ISSN: 0002-7863  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable  
OTHER SOURCE(S): CASREACT 55:27829

ED Entered STN: 22 Apr 2001

AB 2-(3-Methoxyphenyl)-2-[β-(2-amino-3,4,5-trimethoxyphenyl)ethyl]-1,3-dioxolane (I) and the corresponding 1,3-oxathiolane (II) were synthesized as part of a synthetic approach to colchicine. The Pschorr-type ring closure of I led exclusively to 2-(3-methoxyphenyl)-6,7,8-trimethoxyquinoline (III). 3,4,5-(MeO)3C6H2CO2Me (IV) (45 g.) in 225 cc. Ac2O treated at 50-65° with 61 g. powdered Cu(NO3)2, the mixture stirred 1 hr. at room temperature, poured onto 1 kg. ice, filtered, and the residue chromatographed from 200 cc. C6H6 on 25 g. Al2O3 yielded 46 g. 2-NO2 derivative (V) of IV, m. 67-8° free acid (VI) m. 165-6°. VI (12.35 g.) added slowly to 1.7 g. NaBH4 in 50 cc. diglyme, the mixture treated during 1 hr. at 0° with 7.8 g. Et2O.BF3, stirred 1 hr., poured onto 600 cc. ice and H2O, and filtered gave 10.87 g. 3,4,5,2-(MeO)8(O2N)C6HCH2OH (VII), m. 70.5-1.5° (C6H6-heptane). AlCl3 (6.4 g.) in 60 cc. diglyme added dropwise with stirring to 54 g. V, 5.5 g. NaBH4, and 200 cc. diglyme, the mixture stirred 3 hrs. at room temperature and 1 hr. at 75-80°, and worked up yielded 33 g. VII, pale yellow needles, m. 70-1° (heptane). VII (6 g.) in 140 cc. dry C6H6 treated with cooling with 1.2 g. 50% NaH dispersion and 4.6 g. p-MeC6H4SO2Cl, the mixture stirred 13 hrs. at room temperature, and worked up yielded 8.8-9.2 g. p-toluenesulfonate (VIII), m. 123-5° (decomposition). VII (2.43

g.) in 10 cc. dry C<sub>6</sub>H<sub>6</sub> treated during 15 min. at 5° with 2.1 g. PCl<sub>5</sub> and the resulting semi-solid chromatographed on 25 g. Al<sub>2</sub>O<sub>3</sub> yielded 1.83 g. 3,4,5,2-(MeO)<sub>3</sub>(O<sub>2</sub>N)C<sub>6</sub>HCH<sub>2</sub>Cl (IX), pale yellow needles, m. 42-3° (heptane), and 115 mg. [3,4,5,2-(MeO)<sub>3</sub>(O<sub>2</sub>N)C<sub>6</sub>H]<sub>2</sub>O, m. 133.5-34° (C<sub>6</sub>H<sub>6</sub>-hexane). VIII and excess LiBr in Me<sub>2</sub>CO refluxed 20 hrs. gave 3,4,5,2-(MeO)<sub>3</sub>(O<sub>2</sub>N)C<sub>6</sub>HCH<sub>2</sub>Br, needles, m. 46.5-7.5° (heptane). IX (21.7 g.) in 50 cc. HCONMe<sub>2</sub> added with stirring to 5.5 g. 50% NaH dispersion in 100 cc. CH<sub>2</sub>(CO<sub>2</sub>Et)<sub>2</sub>, the mixture stirred 20 hrs. at room temperature, filtered, and evaporated yielded

27.7

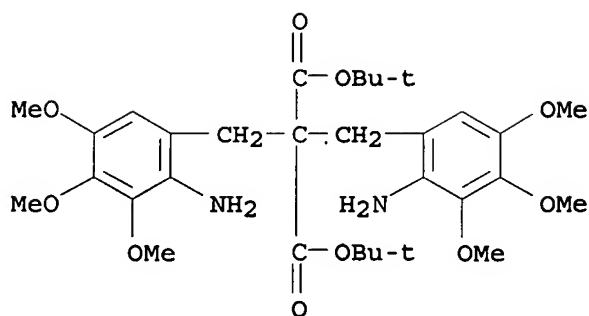
g. 3,4,5-(MeO)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>CHCH(CO<sub>2</sub>Et)<sub>2</sub> (X), pale yellow needles, m. 79° (heptane). X (1.4 g.) in 5 cc. AcOH treated with stirring with 0.25 cc. concentrated HNO<sub>3</sub>, kept 0.5 hr., poured onto ice, and the product isolated with Et<sub>2</sub>O gave 0.4 g. 2-carbethoxy-5,6,7-trimethoxyindanone, needles, m. 184-6° (aqueous EtOH). CH<sub>2</sub>(CO<sub>2</sub>CMe<sub>3</sub>)<sub>2</sub> (2.2 g.) in 15 cc. tetrahydrofuran treated with 0.48 g. 50% NaH dispersion and then with 2 g. VIII in 10 cc. tetrahydrofuran, the mixture stirred 2 hrs., refluxed 0.5 hr., and chromatographed on 5 g. Al<sub>2</sub>O<sub>3</sub> yielded 1.75 g. [3,4,5,2-(MeO)<sub>3</sub>(O<sub>2</sub>N)C<sub>6</sub>H]<sub>2</sub>C(CO<sub>2</sub>CMe<sub>3</sub>)<sub>2</sub>, m. 187-8° (decomposition) (C<sub>6</sub>H<sub>6</sub>-cyclohexane), reduced with Raney Ni-N<sub>2</sub>H<sub>4</sub> to [2,3,4,5-H<sub>2</sub>N(MeO)<sub>3</sub>C<sub>6</sub>H]<sub>2</sub>C(CO<sub>2</sub>CMe<sub>3</sub>)<sub>2</sub>, (XI), converted with Ac<sub>2</sub>O-C<sub>5</sub>H<sub>5</sub>N to the N,N'-di-Ac derivative of XI, m. 179-80° (C<sub>5</sub>H<sub>6</sub>-heptane). VIII (8 g.), 100 cc. dry HCONMe<sub>2</sub>, and 100 cc. dry C<sub>6</sub>H<sub>6</sub> added with stirring to 1 g. 50% NaH dispersion in 100 cc. CH<sub>2</sub>(CO<sub>2</sub>CMe<sub>3</sub>)<sub>2</sub>, the mixture stirred 16 hrs. at room temperature, refluxed 30 min., cooled, poured into 250 cc. iced H<sub>2</sub>O, and the product isolated with C<sub>6</sub>H<sub>6</sub> yielded 7.1 g. 3,4,5,2-(MeO)<sub>3</sub>(O<sub>2</sub>N)C<sub>6</sub>HCH(CO<sub>2</sub>CMe<sub>3</sub>) (XII), m. 59-60° (chromatographed). IX, NaH dispersion, and CH<sub>2</sub>(CO<sub>2</sub>CMe<sub>3</sub>)<sub>2</sub> in 1:1:3 molar ratio stirred 3 hrs. at room temperature in 1:1 C<sub>6</sub>H<sub>6</sub>-HCONMe<sub>2</sub> gave 61% XII. XII (13.3 g.) in 125 cc. dry Et<sub>2</sub>O and LiNH<sub>2</sub> from 0.23 g. Li and 100 cc. liquid NH<sub>3</sub> refluxed 0.5 hr., diluted with 50 cc. Et<sub>2</sub>O, the NH<sub>3</sub> removed, the residue treated with stirring with 6 g. m-MeOC<sub>6</sub>H<sub>4</sub>COCl (XIII) in 30 cc. Et<sub>2</sub>O, stirred 2 hrs., filtered, and evaporated gave 3,4,5,2-(MeO)<sub>3</sub>(O<sub>2</sub>N)C<sub>6</sub>HCH(CO<sub>2</sub>CMe<sub>3</sub>)COC<sub>6</sub>H<sub>4</sub>OMe-m (XIV), m. 104-5° (heptane). The crude XIV refluxed 1 hr. with 147 cc. glacial AcOH, 3 cc. Ac<sub>2</sub>O, and 0.4 g. p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H, cooled, poured onto 1 kg. ice, basified with 40% aqueous NaOH, the product isolated with C<sub>6</sub>H<sub>6</sub>, and chromatographed on 20 g. Al<sub>2</sub>O<sub>3</sub> gave 9-9.5 g. 3,4,5,2-(MeO)<sub>3</sub>(O<sub>2</sub>N)C<sub>6</sub>HCH<sub>2</sub>CH<sub>2</sub>COC<sub>6</sub>H<sub>4</sub>OMe-m (XV), yellow needles, m. 92-3°. A similar run with the mixed anhydride of ClCO<sub>2</sub>Et and m-MeOC<sub>6</sub>H<sub>5</sub>CO<sub>2</sub>H instead of XIII gave 71% XV; oxime, yellow needles, m. 97-9° (aqueous EtOH). XV (10.5 g.), 4 g. (CH<sub>2</sub>OH)<sub>2</sub>, and 0.3 g. p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H in 100 cc. C<sub>6</sub>H<sub>6</sub> refluxed 48 hrs. with the azeotropic removal of H<sub>2</sub>O and worked up gave 10.6 g. 2-NO<sub>2</sub> analog (XVI) of I, prisms, m. 53-5° (heptane); in 1 run a dimorph, yellow needles, m. 71-2°, was obtained from the mother liquor. XVI (8.5 g.) in 400 cc. C<sub>6</sub>H<sub>6</sub> hydrogenated 12 hrs. at 60° over 3 g. prerduced PtO<sub>2</sub> in 500 cc. C<sub>6</sub>H<sub>6</sub> yielded 7.5 g. I, m. 84-5° (heptane). I (400 mg.) and 1 cc. m-MeOC<sub>6</sub>H<sub>4</sub>CHO heated 4 hrs. at 140°, poured into 20 cc. boiling heptane, cooled, filtered, and the residue chromatographed over 5 g. Al<sub>2</sub>O<sub>3</sub> yielded 320 mg. 2-(m-MeOC<sub>6</sub>H<sub>4</sub>CH:N) analog of I, yellow needles, m. 93-4° (heptane); N-Ac derivative (XVII) of I, plates, m. 116-18° (aqueous MeOH). I under a variety of conditions gave small amts. of III. I (100 mg.) in 5 cc. 0.1N HCl extracted with Et<sub>2</sub>O gave 8 mg. III, m. 104-5° the aqueous phase evaporated yielded 60 mg. III.HCl, m. 146-50° (tetrahydrofuran). XV (8 g.) in 100 cc. MeOH stirred 7 hrs. with 2.5 g. NaBH<sub>4</sub> in 50 cc. MeOH gave 7.2 g. 3,4,5,2-(MeO)<sub>3</sub>(O<sub>2</sub>N)C<sub>6</sub>H(CH<sub>2</sub>)<sub>2</sub>CH(OH)C<sub>6</sub>H<sub>4</sub>OMe-m (XVII), m. 90-1° (aqueous MeOH). XVII (6 g.) and 1 cc. 95% N<sub>2</sub>H<sub>4</sub> in 900 cc. 95% EtOH hydrogenated over 2 g. Raney Ni, the mixture treated after 10

and 15 min. with an addnl. 1-cc. portion N<sub>2</sub>H<sub>4</sub> each time, refluxed 3 hrs., filtered, and distilled gave the 2-NH<sub>2</sub> analog (XVIII) of XVII, m. 72-4° (C<sub>6</sub>H<sub>6</sub>-petr. ether), which with Ac<sub>2</sub>O-C<sub>5</sub>H<sub>5</sub>N yielded the O,N-diacetate of XVIII, m. 118-20° (C<sub>6</sub>H<sub>6</sub>-petr. ether). XVIII (2 g.) in 16 cc. N H<sub>2</sub>SO<sub>4</sub> treated dropwise at 0° with 0.4 g. NaNO<sub>2</sub> in 5 cc. H<sub>2</sub>O, the mixture poured into 1 g. KI, 0.5 g. NaOAc, 0.2 g. CuI, 5 cc. H<sub>2</sub>O, and 50 cc. Me<sub>2</sub>CO, heated with stirring on the steam bath to remove the Me<sub>2</sub>CO, extracted with Et<sub>2</sub>O, and the residue from the extract chromatographed on 35 g. Al<sub>2</sub>O<sub>3</sub> yielded 0.8 g. 3,4,5-(MeO)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>COC<sub>6</sub>H<sub>4</sub>OMe-m (XIX), m. 71-3° (heptane). XV (15 g.), 30 cc. HSCH<sub>2</sub>CH<sub>2</sub>OH, and 0.3 g. p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H in 100 cc. refluxed 2 days with the azeotropic removal of H<sub>2</sub>O gave 17.1 g. 2-NO<sub>2</sub> analog (XX) of II, pale yellow, m. 74-5° (heptane). XX (17.1 g.) treated with stirring with 24 g. Al-Hg in 500 cc. Et<sub>2</sub>O gave 10 g. II, m. 76-8° (aqueous MeOH). XVII hydrolyzed with aqueous alc. HCl gave 72% 2,3,4,5-AcNH(MeO)<sub>3</sub>C<sub>6</sub>HCH<sub>2</sub>CH<sub>2</sub>COC<sub>6</sub>H<sub>4</sub>OMe-m (XXI), plates, m. 136.5-8° (aqueous MeOH). II treated with Ac<sub>2</sub>O-C<sub>5</sub>H<sub>5</sub>N and the product hydrolyzed with aqueous alc. HCl gave XXI. 3,4,5-(MeO)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>CO<sub>2</sub>H reduced with NaH and Et<sub>2</sub>O.BF<sub>3</sub> in the usual manner gave 86% 3,4,5-(MeO)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>CH<sub>2</sub>OH (XXII). IV reduced with LiAlH<sub>4</sub> in tetrahydrofuran gave 66-8%, in Et<sub>2</sub>O 24-37% XXII, b<sub>0.4</sub> 137-40° 3,5-dinitrobenzoate m. 144-6°. The Li salt of 3,4,5-(MeO)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>CH<sub>2</sub>CH(CO<sub>2</sub>CMe<sub>3</sub>)<sub>2</sub> (XXIII) treated with XIII and then decarbo-tert-butoxylated gave XIX, needles, m. 69-70° (heptane); oxime m. 94.5-5.5° (aqueous EtOH). 2-Methoxy-4-carboxytropone (XXIV) (0.9 g.) and 0.5 g. Et<sub>3</sub>N in 100 cc. dry Et<sub>2</sub>O treated with stirring at 0° with 0.54 g. ClCO<sub>2</sub>Et in 25 cc. Et<sub>2</sub>O, the mixture stirred 2 hrs. at 0° and 1 hr. at room temperature, filtered, and evaporated gave the mixed anhydride (XXV), pale yellow, m. 84-5° (sealed tube). Li salt of 0.002 mole XXIII and 0.51 g. XXV in 15 cc. dry PhMe kept overnight, washed, and chromatographed on Florisil yielded 2-methoxy-4-[α-oxo-β,β-dicarbo-tert-butoxy-γ-(3,4,5-trimethoxyphenyl)]propyltropone, yellow powder, m. about 75° (indefinite). XXV (0.252 g.) and 0.093 g. PhNH<sub>2</sub> in 15 cc. C<sub>6</sub>H<sub>6</sub> warmed briefly to 60°, kept overnight, and filtered gave 0.071 g. XXIV; the filtrate worked up gave 0.08 g. anilide of XXIV, m. 153-3.5° (C<sub>6</sub>H<sub>6</sub>-heptane). XII in C<sub>6</sub>H<sub>6</sub> hydrogenated 13 hrs. at 70-80°/2 atmospheric over PtO<sub>2</sub> gave the 2-NH<sub>2</sub> analog (XXVI) of XII, m. 74-5° (pentane), which with Ac<sub>2</sub>O-C<sub>5</sub>H<sub>6</sub>N gave the N-Ac derivative (XXVII), m. 135.5-36° (heptane). XXVI with XIII in C<sub>5</sub>H<sub>5</sub>N gave the N-(m-MeOC<sub>6</sub>H<sub>4</sub>CO) derivative of XXVI, m. 110-10.5° (heptane). The Li salt from 2 equivs. XXVII treated with 6 equivs. XIII, the product decarbo-tert-butoxylated, and the resulting oily ketone mixture treated with 2,4-(O<sub>2</sub>N)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NHNH<sub>2</sub> gave the 2-(m-MeOC<sub>6</sub>H<sub>4</sub>CONH) analog of XV, m. 215.5-16° (EtOAc-EtOH).

IT 116282-95-2P, Malonic acid, bis(2-amino-3,4,5-trimethoxybenzyl)-, di-tert-butyl ester  
(preparation of)

RN 116282-95-2 HCAPLUS

CN Malonic acid, bis(2-amino-3,4,5-trimethoxybenzyl)-, di-tert-butyl ester (6CI) (CA INDEX NAME)



CC 10G (Organic Chemistry: Heterocyclic Compounds)  
 IT 3840-31-1P, Benzyl alcohol, 3,4,5-trimethoxy- 5081-42-5P, Benzoic acid, 3,4,5-trimethoxy-2-nitro-, methyl ester 5435-28-9P, Benzyl alcohol, 3,4,5-trimethoxy-2-nitro- 33119-23-2P, 1,3,6-Cycloheptatriene-1-carboxylic acid, 6-methoxy-5-oxo- 52978-82-2P, Toluene,  $\alpha$ -chloro-3,4,5-trimethoxy-2-nitro- 66907-52-6P, Benzoic acid, 3,4,5-trimethoxy-2-nitro- 101097-40-9P, 1,3,6-Cycloheptatriene-1-carboxanilide, 6-methoxy-5-oxo- 101103-57-5P, 2-Indancarboxylic acid, 5,6,7-trimethoxy-1-oxo-, ethyl ester 101585-71-1P, Benzyl alcohol, 3,4,5-trimethoxy-2-nitro-, p-toluenesulfonate 102160-82-7P, Propiophenone, 3'-methoxy-3-(3,4,5-trimethoxy-2-nitrophenyl)-; oxime 102458-13-9P, Ether, bis(3,4,5-trimethoxy-2-nitrobenzyl) 103387-07-1P, Toluene,  $\alpha$ -bromo-3,4,5-trimethoxy-2-nitro- 108367-76-6P, Quinoline, 6,7,8-trimethoxy-2-(m-methoxyphenyl)-, hydrochloride 108367-77-7P, Quinoline, 6,7,8-trimethoxy-2-(m-methoxyphenyl)- 108761-20-2P, Carbonic acid, ethyl ester, anhydride with 6-methoxy-5-oxo-1,3,6-cycloheptatriene-1-carboxylic acid 108761-20-2P, 1,3,6-Cycloheptatriene-1-carboxylic acid, 6-methoxy-5-oxo-, anhydride with Et carbonate 108984-58-3P, Propiophenone, 3'-methoxy-3-(3,4,5-trimethoxyphenyl)-, oxime 108984-62-9P, Benzyl, m-methoxy- $\alpha$ -(3,4,5-trimethoxy-2-nitrophenethyl)- 109158-32-9P, Propiophenone, 3'-methoxy-3-(3,4,5-trimethoxy-2-nitrophenyl)- 109935-64-0P, Benzyl alcohol,  $\alpha$ -(2-amino-3,4,5-trimethoxyphenethyl)-m-methoxy- 110049-40-6P, Propiophenone, 3'-methoxy-3-(3,4,5-trimethoxyphenyl)- 110147-69-8P, Malonic acid, (2-amino-3,4,5-trimethoxybenzyl)-, di-tert-butyl ester 111587-60-1P, Benzyl alcohol, 3,4,5-trimethoxy-, 3,5-dinitrobenzoate 112115-54-5P, Malonic acid, (2-acetamido-3,4,5-trimethoxybenzyl)-, di-tert-butyl ester 112198-00-2P, Acetanilide, 6'-(2-m-anisoyl)-2',3',4'-trimethoxy- 112198-05-7P, 1,3-Dioxolane, 2-(m-methoxyphenyl)-2-(3,4,5-trimethoxy-2-nitrophenethyl)- 113183-78-1P, Malonic acid, (3,4,5-trimethoxy-2-nitrobenzyl)-, di-tert-butyl ester 113649-53-9P, Acetanilide, 6'-[3-hydroxy-3-(m-methoxyphenyl)propyl]-2',3',4'-trimethoxy-, acetate 115001-13-3P, Malonic acid, m-anisoyl(3,4,5-trimethoxy-2-nitrobenzyl)-, di-tert-butyl ester 115294-28-5P, Malonic acid, (6-methoxy-5-oxo-1,3,6-cycloheptatrien-1-ylcarbonyl)(3,4,5-trimethoxybenzyl)-, di-tert-butyl ester 116029-68-6P, Malonic acid, bis(3,4,5-trimethoxy-2-nitrobenzyl)-, di-tert-butyl ester 116213-39-9P, Malonic acid, bis(2-acetamido-3,4,5-trimethoxybenzyl)-, di-tert-butyl ester 116282-95-2P, Malonic acid, bis(2-amino-3,4,5-trimethoxybenzyl)-, di-tert-butyl ester 117204-49-6P, Aniline, 2,3,4-trimethoxy-N-m-methoxybenzylidene-6-[2-[2-(m-methoxyphenyl)-1,3-dioxolan-2-yl]ethyl]- 117878-35-0P, Aniline, 2,3,4-trimethoxy-6-[2-[2-(m-methoxyphenyl)-1,3-oxathiolan-2-yl]ethyl]- 117878-36-1P, Aniline, 2,3,4-trimethoxy-6-[2-[2-(m-methoxyphenyl)-1,3-

dioxolan-2-yl]ethyl]- 118923-03-8P, Acetanilide,  
 2',3',4'-trimethoxy-6'-[2-[2-(m-methoxyphenyl)-1,3-dioxolan-2-  
 yl]ethyl]- 119570-18-2P, m-Anisanilide, 6'-(2-m-anisoylethyl)-  
 2',3,4'-trimethoxy- 123906-31-0P, Malonic acid, (2-m-anisamido-3,4,5-  
 trimethoxybenzyl)-, di-tert-butyl ester 124141-75-9P, m-Anisanilide,  
 6'-(2-m-anisoylethyl)-2',3,4'-trimethoxy-, (2,4-  
 dinitrophenyl)hydrazone 132105-81-8P, 1,3-Oxathiolane,  
 2-(m-methoxyphenyl)-2-(3,4,5-trimethoxy-2-nitrophenethyl)-  
 (preparation of)

L26 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1959:44995 HCAPLUS

DOCUMENT NUMBER: 53:44995

ORIGINAL REFERENCE NO.: 53:8067f-i,8068a

TITLE: p,p'-Dinitro and -amino derivatives of  
 1,3-diphenylpropane

AUTHOR(S): Greene, Frederick D.; Edwards, Ben E.

CORPORATE SOURCE: Massachusetts Inst. of Technol., Cambridge

SOURCE: Journal of Organic Chemistry (1958), 23,  
 487-8

CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 53:44995

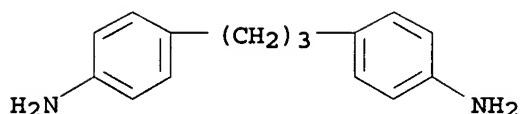
ED Entered STN: 22 Apr 2001

AB Nitration of Ph(CH<sub>2</sub>)<sub>3</sub>Ph (I) with Ac<sub>2</sub>O, HNO<sub>3</sub>, and H<sub>2</sub>SO<sub>4</sub> yielded 22%  
 (p-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>(CH<sub>2</sub>)<sub>3</sub> (II), oxidized to p-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CO<sub>2</sub>H in substantially  
 greater than 50% yield. I (15 ml., b<sub>0.1</sub> 78-80°, n<sub>D</sub><sup>25</sup> 1.5570)  
 in 20 ml. Ac<sub>2</sub>O added dropwise with stirring below 0° to a  
 nitrating medium (prepared by slow addition of 4 ml. concentrated H<sub>2</sub>SO<sub>4</sub> and 12  
 ml. concentrated HNO<sub>3</sub> to 20 ml. Ac<sub>2</sub>O below 0°), the mixture stirred 30  
 min. at 0° and diluted with 100 ml. H<sub>2</sub>O, the solution stirred 30  
 min. at room temperature, the crude product washed with water, and the  
 material (19 g., m. 85-100°) crystallized 4 times yielded 4.5 g. II,  
 m. 140-1° (alc.), λ 278, 233 (min.), 216 mμ  
 (ε 21,000, 4250, 15,400, 95% alc.), oxidized to yield 74%  
 p-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CO<sub>2</sub>H, m. 234-6°. II (0.55 g.) and 0.5 ml. 95%  
 N<sub>2</sub>H<sub>4</sub>.H<sub>2</sub>O in 10 ml. dioxane warmed with addition of 0.5 g. Raney Ni, the  
 solution kept 1 hr. at 60° with occasional addns. of small amts.  
 of catalyst, the filtered solution decolorized with Norit, and the  
 refiltered solution diluted with 30 ml. H<sub>2</sub>O yielded 50% (p-H<sub>2</sub>-NC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>(CH<sub>2</sub>)<sub>3</sub>  
 (III), m. 103-4° (20 ml. C<sub>6</sub>H<sub>14</sub>), λ 290, 266 (min.), 238,  
 216 (min.) mμ (ε 2960, 1280, 21,200, 7810, 95% alc.). II  
 (2 g.) in 150 ml. alc. refluxed 4 hrs. with 3.2 g. Na<sub>2</sub>S<sub>2</sub>O<sub>8</sub>.H<sub>2</sub>O and 0.8  
 g. S in 12 ml. H<sub>2</sub>O, the cooled solution diluted with 500 ml. H<sub>2</sub>O, extracted 4  
 times with 100 ml. Et<sub>2</sub>O, the Et<sub>2</sub>O extract washed 4 times with 80 ml. 5%  
 HCl, the acidic extract basified and extracted with Et<sub>2</sub>O, the red oily  
 product chromatographed in C<sub>6</sub>H<sub>6</sub> over 50 g. Al<sub>2</sub>O<sub>3</sub>, and eluted with C<sub>6</sub>H<sub>6</sub>  
 yielded 38% p-H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>(CH<sub>2</sub>)<sub>3</sub>C<sub>6</sub>H<sub>4</sub>NO<sub>2</sub>-p, m. 92-3° (C<sub>6</sub>H<sub>12</sub>),  
 λ 278, 256 (min.), 238, 225 (min.) mμ (ε 11, 100,  
 8,150, 4080, 9680, 95% alc.). Further elution with C<sub>6</sub>H<sub>6</sub>Et<sub>2</sub>O, Et<sub>2</sub>O,  
 and Et<sub>2</sub>O-MeOH yielded 180 mg. impure III, and 2 oily unidentified  
 fractions.

IT 2767-73-9P, Aniline, 4,4'-trimethylenedi-  
 (preparation of)

RN 2767-73-9 HCAPLUS

CN Benzenamine, 4,4'-(1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



CC 10E (Organic Chemistry: Benzene Derivatives)

IT 2767-73-9P, Aniline, 4,4'-trimethylenedi- 10368-11-3P,  
Propane, 1,3-bis(p-nitrophenyl)- 38758-22-4P, Aniline,  
p-[3-(p-nitrophenyl)propyl]- 100388-04-3P, 1,3-Dioxolane,  
2-(3-bromopropyl)-2-phenyl-  
(preparation of)

L26 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1938:3432 HCAPLUS

DOCUMENT NUMBER: 32:3432

ORIGINAL REFERENCE NO.: 32:517a-d

TITLE: Para arsenated mixed ethers

AUTHOR(S): Barr, Paul O.; Hamilton, Cliff S.

SOURCE: Journal of the American Chemical Society (1937), 59, 2444-6

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

ED Entered STN: 16 Dec 2001

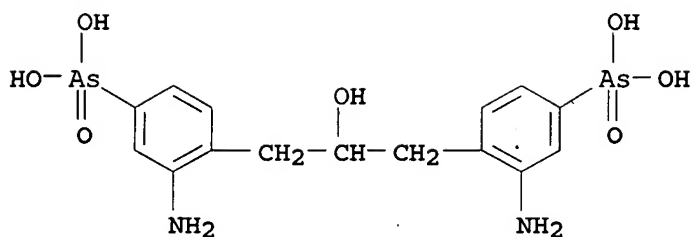
AB 4-HOC6H4AsO3H2 (109 g.) in 375 cc. 6 N NaOH and 50 cc. HOCH2(CH2Cl)2, refluxed 2 hrs. and acidified with 12 N HCl, give 30% of sym-bis(4-arsonophenoxy)propan-2-ol (I) m. above 270°; with HNO3-H2SO4 at 0° there results 92% of the 2-nitroisopropyl nitrate, yellow, decomp. 218°, which, refluxed with 2 N HCl for 4 hrs., gives 96% of the 2-NO2 derivative of I, yellow, decomp. 260°; catalytic reduction (Raney Ni) gives 74% of the 2-NH2 derivative of I, decomp. 186° (Na salt). ClCH2CH(OH)CH2OH gives 85-90% of 4-arsonophenoxyglycerol (II), pink, m. 177-8° (Na salt, m. above 250°); HNO3 and H2SO4 give 75-80% of 2-nitro-4-arsonophenoxypropylene dinitrate, yellow, m. 132-3°; refluxing with 2 N HCl yields 80% of 2-nitro-4-arsonophenoxyglycerol, light tan, m. 98-9° (80% yield) Na salt, yellow; catalytic reduction gives 60% of the 2-NH2 derivative, light gray, m. 194-6° (decomposition) (Na salt, light gray). Reduction of I with SO2-HI gives 82% of 4-β,γ-dihydroxypropoxyphenylarsenious oxide, m. 122-3°; 3-NO2 derivative, yellow, m. 167-8° (71% yield); 3-NH2 derivative, m. above 250° (20% yield). Reduction with 25% H3PO2 converts I to 4,4'-bis(β,γ-dihydroxypropoxy)arsenobenzene, orange, m. 164-5° (90% yield); 3,3'-di-NO2 derivative (III), yellow, m. 197-8° (71% yield); 3,3'-di-NH2 derivative, yellow, m. 170-3° (decomposition) (85% yield). The tetranitrate of III, light tan, m. 98-9° (80% yield from the dinitrate of II).

IT 860526-27-8P, m-Arsanilic acid, 4,4'-(2-hydroxytrimethylene)-di-

(preparation of)

RN 860526-27-8 HCAPLUS

CN m-Arsanilic acid, 4,4'-(2-hydroxytrimethylene)-di- (4CI) (CA INDEX NAME)



CC 10 (Organic Chemistry)

IT 198763-11-0P, Benzenearsonic acid, p-(2,3-dihydroxypropoxy) -  
 854650-48-9P, 1,2-Propanediol, 3-(p-arsenosophenoxy) - 854650-50-3P,  
 1,2-Propanediol, 3-(4-arsenoso-2-nitrophenoxy) - 854650-52-5P,  
 1,2-Propanediol, 3,3'-[arsenobis(3-nitro-p-phenyleneoxy)]di-  
 854650-54-7P, 1,2-Propanediol, 3-(2-amino-4-arsenosophenoxy) -  
 860517-59-5P, Benzenearsonic acid, 4,4'-(2-  
 hydroxytrimethylenedioxy)bis[3-nitro-, nitrate 860517-61-9P,  
 Benzenearsonic acid, 4,4'-(2-hydroxytrimethylenedioxy)bis[3-nitro-  
 860518-38-3P, Benzenearsonic acid, p-(2,3-dihydroxypropoxy) -, Na salt  
 860525-49-1P, Arsenobenzene, 4,4'-bis(2,3-dihydroxypropoxy)-3,3'-  
 dinitro-, tetranitrate (ester) 860525-51-5P, Arsenobenzene,  
 4,4'-bis(2,3-dihydroxypropoxy)-3,3'-dinitro- 860525-53-7P,  
 Arsenobenzene, 4,4'-bis(2,3-dihydroxypropoxy)- 860525-53-7P,  
 1,2-Propanediol, 3,3'-[arsenobis(p-phenyleneoxy)]-di- 860525-92-4P,  
 Aniline, 3,3'-arsenobis[6-(2,3-dihydroxypropoxy)- 860525-92-4P,  
 Arsenobenzene, 3,3'-diamino-4,4'-bis(2,3-dihydroxypropoxy)-  
 860525-92-4P, 1,2-Propanediol, 3,3'-[arsenobis(3-amino-p-  
 phenyleneoxy)]di- 860526-09-6P, m-Arsanilic acid,  
 4-(2,3-dihydroxypropoxy) -, Na salt 860526-11-0P, m-Arsanilic acid,  
 4-(2,3-dihydroxypropoxy)- 860526-27-8P, m-Arsanilic acid,  
 4,4'-(2-hydroxytrimethylene)-di- 867133-43-5P, 1,2-Propanediol,  
 3,3'-[arsenobis(3-nitro-p-phenyleneoxy)]di-, tetranitrate (ester)  
 (preparation of)

L26 ANSWER 34 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1930:30242 HCAPLUS

DOCUMENT NUMBER: 24:30242

ORIGINAL REFERENCE NO.: 24:3217b-i,3218a

TITLE: Urea formation from azides of mono- and  
 dialkylacetic acids

AUTHOR(S): Curtius, Theodor; Sieber, Wilhelm; Nadenheim,  
 Fanny; Hamsch, Otto; Ritter, Wolfgang

SOURCE: Journal fuer Praktische Chemie (Leipzig) (  
 1930), 125, 152-210  
 CODEN: JPCEAO; ISSN: 0021-8383

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

ED Entered STN: 16 Dec 2001

AB Me2CHCH2CH2CH2CO2Et and N2H4.H2O, boiled 5 h., give  
 isoamylacetylhydrazide, m. 37-40°; HCl salt, hygroscopic, m.  
 174° (decomposition); benzal compound, m. 93°; with I in absolute  
 EtOH there results sym. diisoamylacetylhydrazine, m. 123°, HNO2  
 gives isoamylacetyl azide, oily; absolute EtOH gives Et isohexylcarbamate,  
 b. 122°; H2O gives Me2CHCH2CH2CH2CONH2. Decomposition of the  
 urethane with HCl gives isohexylamine, b. 122-3°; HCl salt, m.  
 220°; chloroplatinate, yellow, decomp. 200°; HgCl2  
 compds., m. 185-7°; picrate, yellow, m. 123-5°.  
 Isohexyl isocyanate, b. 50°; with isohexylamine this gives sym.

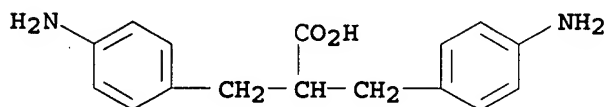
diisohexylurea, m. 44°; with H<sub>2</sub>NCH<sub>2</sub>CO<sub>2</sub>Et there results the Et ester, m. 48-50°, of isohexylureidoacetic acid. m. 121-3°. The Et ester and N<sub>2</sub>H<sub>4</sub>.H<sub>2</sub>O give the hydrazide, m. 115-6°, whose benzal compound m. 211°. Di-Et ethylisobutylmalonate, b<sub>13</sub> 121-4° (74% yield); the free acid m. 97-8°; above the m. p. there results 72% of the acetic acid, b<sub>748</sub> 218-9° (Ag salt), whose Et ester b<sub>747</sub> 178°; N<sub>2</sub>H<sub>4</sub>.H<sub>2</sub>O gives ethylisobutylacetyl hydrazide, m. 74° (76% yield); HCl salt, m. 105°; picrate, yellow, m. 79°; benzal compound, m. 88°; o-hydroxy-benzal compound, m. 117°; Ac compound, m. 124°; Bz compound, m. 141°. With I in EtOH there results sym. diethylisobutylacetylhydrazine, m. 204°. Ethylisobutylacetyl azide, oily, decomp. in the cold; with H<sub>2</sub>O after 8 h. boiling there result 2 compds., m. 223° and 215°, which show the composition C<sub>11</sub>H<sub>22</sub>O<sub>2</sub>N<sub>2</sub> (sym. diethylisobutylcarbinurea) and also ethylisobutylacetamide, m. 88°. Ethylisobutylcarbin isocyanate, b<sub>750</sub> 165°; PhNH<sub>2</sub> gives the phenylurea, Me<sub>2</sub>CHCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CONHPh, m. 100°; absolute EtOH gives Et ethylisobutylcarbin carbamate, b<sub>25</sub> 128°; hydrolysis gives 87.5% of ethylisobutylcarbinamine, b<sub>748</sub> 130-4°, d<sub>15</sub> 0.7278, n<sub>D21</sub> 1.4160; HCl salt, m. 185° (decomposition); chloroplatinate, yellow, decomp. above 200°; picrate, yellow, m. 123°. Iso-Bu hydrazide, m. 104°; HCl salt, m. 122°; picrate, yellow, m. 114°; o-hydroxybenzal compound, m. 170°; acetophenone compound, m. 154°; Ac compound, m. 156°; Bz compound, m. 178°. The pure azide could not be prepared, for it decomp. into Me<sub>2</sub>CHNCO, b<sub>756</sub> 72°; the latter, boiled with H<sub>2</sub>O, gives sym. diisopropylurea, m. 192°; PhNH<sub>2</sub> gives sym. isopropylphenylurea, m. 156°, Anhydrous N<sub>2</sub>H<sub>4</sub> gives diisopropylhydrazodicarboxamide, (NHCONHCHMe<sub>2</sub>)<sub>2</sub>, m. 212°. H<sub>2</sub>NCH<sub>2</sub>CO<sub>2</sub>Et gives Et isopropylureidoacetate, m. 100°, gives with absolute EtOH isopropylureidoacetyl hydrazide, m. 179° (HCl salt, hygroscopic; benzal compound, m. 225° (decomposition)). HNO<sub>2</sub> gives the azide, m. about 100°. Isobutylacetyl hydrazide, m. 35-8°; HCl salt, decomp. above 90°; picrate, yellow, m. 117°; benzal compound, m. 89°; o-hydroxybenzal compound, m. 153°; acetophenone compound, m. 89°; Ac compound, m. 87° Bz compound, m. 138-9°. Isobutylacetyl azide, decomp. during purification; H<sub>2</sub>O gives Me<sub>2</sub>CHCH<sub>2</sub>CH<sub>2</sub>CONH<sub>2</sub>, m. 141°; boiling the azide in Et<sub>2</sub>O gives Me<sub>2</sub>CHCH<sub>2</sub>CH<sub>2</sub>NCO, b. 132°, and Me<sub>2</sub>CHCH<sub>2</sub>NHCONH<sub>2</sub>, m. 94°. Heating the isocyanate with H<sub>2</sub>O for 0.5 h. gives CO(NHCH<sub>2</sub>CH<sub>2</sub>CHMe<sub>2</sub>)<sub>2</sub>, m. 46°. PhNH<sub>2</sub> gives sym. isoamylphenylurea, m. 116°. H<sub>2</sub>NCH<sub>2</sub>CO<sub>2</sub>Et, followed by N<sub>2</sub>H<sub>5</sub>, H<sub>2</sub>O, gives isoamylureidoacetyl hydrazide, m. 114.6°; benzal compound, m. 192°. Azide, easily hydrolyzed. Di-Et ester, b<sub>14</sub> 145°, b<sub>20</sub> 132° (73% yield), of isobutylisoamylmalonic acid, m. 122-4°; Et isobutylisoamylacetate, b<sub>741</sub> 215-20°; N<sub>2</sub>H<sub>4</sub> gives isobutylisoamylacetyl hydrazide, which could not be obtained free from ester; HCl salt, m. 164°; picrate, m. 101-2°; benzal compound, m. 112°; acetone compound, oily; acetophenone compound, m. 100°; Ac compound, m. 120°; Bz compound, m. 124°. I in EtOH gives sym. diisobutylisoamylacetylhydrazine, m. 225-7°. Isobutylisoamylacetyl azide decomp. in Et<sub>2</sub>O at room temperature, giving isobutylisoamylcarbin isocyanate, b<sub>26</sub> 105-15°, b. 210-20°; heating with H<sub>2</sub>O gives sym. diisobutylisoamylcarbinurea, m. 228-30°; concentrated NH<sub>4</sub>OH gives isobutylisoamylcarbinurea, m. 103°; PhNH<sub>2</sub> gives sym. isobutylisoamylcarbinphenylurea, m. 190°. The azide with absolute EtOH gives Et isobutylisoamylcarbin carbamate, b<sub>18</sub> 160-70°.

Isobutylisoamylcarbinamine (4-amino-2,7-dimethyloctane), b744  
186-90°,  $n_D^{20}$  1.42323,  $n_D^{20}$  1.42295; HCl salt, m.  
173-4°; picrate, dark yellow, m. 115-6°.

IT 857809-53-1P, Isobutyric acid,  $\beta,\beta'$ -bis(p-aminophenyl)-, di-HCl  
(preparation of)

RN 857809-53-1 HCAPLUS

CN Isobutyric acid,  $\beta,\beta'$ -bis(p-aminophenyl)-, di-HCl (3CI) (CA  
INDEX NAME)



● 2 HCl

CC 10 (Organic Chemistry)

IT 628-49-9P, Urea, isoamyl- 3016-28-2P, Isocaproamide 4128-37-4P,  
Urea, s-diisopropyl- 4473-06-7P, Malonic acid, ethylisobutyl-  
6913-90-2P, Hydrazine, benzoylisobutyryl- 16314-53-7P, Biurea,  
1,6-diisopropyl- 19895-44-4P, Urea,  $\alpha$ -isopropyl- $\beta$ -phenyl-  
54009-59-5P, Hydrazine,  $\alpha$ -isobutyryl- $\beta$ -salicylal-  
75329-19-0P, Urea, s-diisoamyl- 84747-87-5P, Urea,  
 $\alpha$ -( $\alpha$ -ethylisoamyl)- $\beta$ -phenyl- 123647-93-8P, Malonic  
acid, ethylisobutyl-, diethyl ester 130001-72-8P, Malonic acid,  
isoamylisobutyl-, diethyl ester 130482-28-9P, Isocaproamide,  
 $\alpha$ -ethyl- 275360-47-9P, Hydrazine, s-bis( $\delta$ -methylcaproyl)-  
332065-06-2P, Urea,  $\alpha$ -isoamyl- $\beta$ -phenyl- 854887-97-1P,  
Urea, ( $\alpha$ -isobutylisohexyl)- 857781-97-6P, Carbamic acid,  
isohexyl-, ethyl ester 857782-06-0P, Carbamic acid,  
( $\alpha$ -ethylisoamyl)-, ethyl ester 857792-85-9P, Isobutyric acid,  
 $\beta$ -(p-aminophenyl)- $\beta'$ -(p-benzamidophenyl)- 857796-47-5P,  
Hydrazine, benzoyl( $\alpha$ -ethylisocaproyl)- 857796-59-9P,  
Hydrazine,  $\alpha$ -benzal- $\beta$ -( $\alpha$ -ethylisocaproyl)-  
857796-79-3P, Hydrazine, s-bis( $\alpha$ -isobutyl- $\delta$ -methylcaproyl)-  
857797-28-5P, Hydrazine,  $\alpha$ -isocaproyl- $\beta$ -( $\alpha$ -  
methylbenzal)- 857797-30-9P, Hydrazine,  $\alpha$ -( $\alpha$ -isobutyl-  
 $\delta$ -methylcaproyl)- $\beta$ -isopropylidene- 857808-78-7P,  
Isocaproyl azide,  $\alpha$ -ethyl- 857808-80-1P, Isocaproyl azide  
857809-53-1P, Isobutyric acid,  $\beta,\beta'$ -bis(p-aminophenyl)-, di-HCl 857814-77-8P, Hydrazine,  $\alpha$ -( $\alpha$ -  
isobutyl- $\delta$ -methylcaproyl)- $\beta$ -( $\alpha$ -methylbenzal)-  
857815-28-2P, Hydrazine,  $\alpha$ -benzal- $\beta$ -( $\delta$ -methylcaproyl)-  
857815-33-9P, Hydrazine,  $\alpha$ -isocaproyl- $\beta$ -salicylal-  
857815-35-1P, Hydrazine,  $\alpha$ -isobutyryl- $\beta$ -( $\alpha$ -  
methylbenzal)- 857815-50-0P, Hydrazine, s-bis( $\alpha$ -  
ethylisocaproyl)- 857815-58-8P, Hydrazine,  $\alpha$ -( $\alpha$ -  
ethylisocaproyl)- $\beta$ -salicylal- 857815-72-6P, Hydrazine,  
acetyl( $\alpha$ -ethylisocaproyl)- 857816-14-9P, Hydrazine,  
 $\alpha$ -benzal- $\beta$ -isocaproyl- 857816-15-0P, Hydrazine,  
 $\alpha$ -benzal- $\beta$ -( $\alpha$ -isobutyl- $\delta$ -methylcaproyl)-  
857829-38-0P, Carbamic acid, ( $\alpha$ -isobutylisohexyl)-, ethyl ester  
857830-36-5P, Caproyl azide,  $\delta$ -methyl- 858017-36-4P,  
4-Octanol, 2,7-dimethyl-, isocyanate 858844-96-9P, Urea,  
s-bis( $\alpha$ -isobutylisohexyl)- 858845-31-5P, Urea,

s-bis( $\alpha$ -ethylisoamyl)- 859191-61-0P, 3-Hexanol, 5-methyl-,  
isocyanate 859197-00-5P, Malonic acid, isoamylisobutyl-  
860580-39-8P, Acetyl azide, ( $\beta$ -isopropylcarbamido)-  
860580-41-2P, Acetyl azide, ( $\beta$ -isoamylcarbamido)- 876489-37-1P,  
3,5-Pyrazoledione, 4,4-bis(p-benzalaminobenzyl)- 897376-27-1P, Urea,  
s-diisohexyl-  
(preparation of)

L26 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1930:30241 HCAPLUS

DOCUMENT NUMBER: 24:30241

ORIGINAL REFERENCE NO.: 24:3216i,3217a-b

TITLE: Transformation of alkylated malonic acids into  
 $\alpha$ -amino acids. VIII. Synthesis of  
p-nitrophenylalanine from p-  
nitrobenzylmalonylazidic acid

AUTHOR(S): Muhlhausser, Willi

SOURCE: Journal fuer Praktische Chemie (Leipzig) (  
1930), 125,  
CODEN: JPCEAO; ISSN: 0021-8383

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

ED Entered STN: 16 Dec 2001

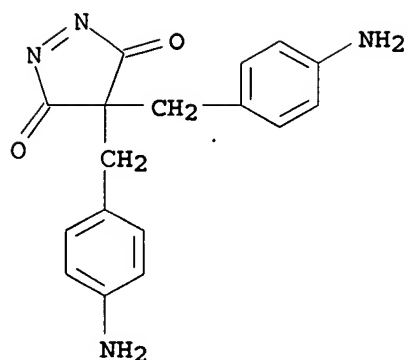
GI For diagram(s), see printed CA Issue.

AB Details are given for the preparation of p-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CH(CO<sub>2</sub>Et)CO<sub>2</sub>Et in 60%  
yield. The K salt of p-O<sub>2</sub>NC<sub>4</sub>H<sub>4</sub>CH<sub>2</sub>CH(CO<sub>2</sub>Et)CO<sub>2</sub>H, very hygroscopic (81%  
yield), and N<sub>2</sub>H<sub>4</sub>.H<sub>2</sub>O give the K salt, m. 190° (decomposition), of  
p-nitrobenzylmalonylhyrosidic acid, m. 137°; HCl salt, slightly  
hygroscopic, m. 171°; benzal compound, m. 149° (decomposition);  
acetone compound, m. 142° (decomposition); acetophenone compound,  
yellow, m. 154° (decomposition). The azidic acid is very stable in  
Et<sub>2</sub>O; the fine needles explode on heating; with PhNH<sub>2</sub> there results  
the anilidic acid, m. 149°. Heating the azidic acid in Et<sub>2</sub>O  
gives the polymeric p-nitrophenylalanine anhydride, which, heated with  
HCl at 130° for 4 hrs., gives p-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CH(NH<sub>2</sub>CO<sub>2</sub>H.  
(p-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>)<sub>2</sub>C(CO<sub>2</sub>Et)<sub>2</sub> and N<sub>3</sub>H<sub>4</sub> (more slowly with N<sub>2</sub>H<sub>4</sub> H<sub>2</sub>O) give the  
cyclic sec. p, p-diaminodibenzylmalonyl hydrazide,  
(H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>)<sub>2</sub>C.CO.NH.NH.CO, m. 288° (decomposition); di-HCl salt, m.  
about 300° (decomposition); dibenzal compound, m. 271°  
(decomposition); hydrolysis with concentrated HCl gives p,p-  
diaminodibenzylacetic acid-di-HCl, m. 251° (decomposition); mono-Bz  
derivative, m. 250°.

IT 856061-28-4P, 3,5-Pyrazoledione, 4,4-bis(p-aminobenzyl)-,  
di-HCl 856061-29-5P, 3,5-Pyrazoledione, 4,4-bis(p-  
aminobenzyl)-  
(preparation of)

RN 856061-28-4 HCAPLUS

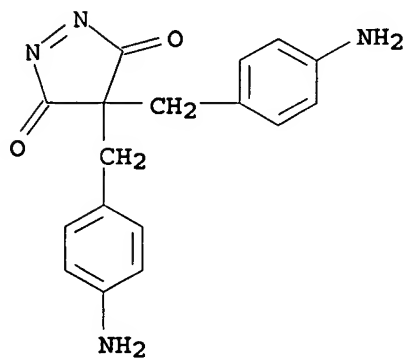
CN 3,5-Pyrazoledione, 4,4-bis(p-aminobenzyl)-, di-HCl (3CI) (CA INDEX  
NAME)



●2 HCl

RN 856061-29-5 HCAPLUS

CN 3,5-Pyrazoledione, 4,4-bis(p-aminobenzyl)- (3CI) (CA INDEX NAME)



CC 10 (Organic Chemistry)

IT 949-99-5P, Alanine,  $\beta$ -(p-nitrophenyl)- 856061-28-4P,

3,5-Pyrazoledione, 4,4-bis(p-aminobenzyl)-, di-HCl

856061-29-5P, 3,5-Pyrazoledione, 4,4-bis(p-aminobenzyl)-

859197-81-2P, Malonanilic acid,  $\alpha$ -p-nitrobenzyl- 876481-81-1P,

Malonazidic acid (N3COCH2CO2H), p-nitrobenzyl- 876489-37-1P,

3,5-Pyrazoledione, 4,4-bis(p-benzalaminobenzyl)-  
(preparation of)

L26 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1914:19706 HCAPLUS

DOCUMENT NUMBER: 8:19706

ORIGINAL REFERENCE NO.: 8:2874e-i,2875a-g

TITLE: Spiranes. VI. Some properties of the spirane carbon atom

AUTHOR(S): Radulescu, Dan

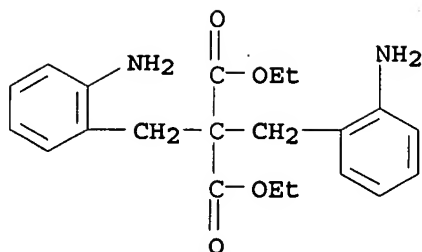
SOURCE: Bull. soc. Stiinte Bucuresti (1914), 21, 32-58

From: Chem. Zentr., 1912, II, 1363-6

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

ED Entered STN: 16 Dec 2001  
 GI For diagram(s), see printed CA Issue.  
 AB R. discusses the influence of the spirane C atomic on the stability and conditions of formation of the 2 rings which it joins. No steric hindrance exists in quaternary spiranes to influence either way the closing of the rings; on the other hand, spiranes with 5 or 6 ats. in the ring are more stable than analogous compds. with open chains. The mobility of the radicals in tertiary and quaternary systems is not conditioned by steric hindrance. A study of cyclopropanecyclopentane-2,5-dione-1,1-spirane-3,4-dicarboxylic acid and its derivs. shows that the stability of the trimethylene ring is not essentially lessened by the spirane C atomic. The chromophoric properties of the rings are peculiarly affected by the quaternary systems of the spiranes, for the 2 spirane bonds in 1 ring act like a double bond on the chromophoric properties of the other ring. The group (II) is a stronger chromophore than group (I). Anhydro derivatives of type (V) containing the complex (III) give yellow solns., which become blue with an excess of strong alkali, due to addition of a CO group. With concentrate NH<sub>4</sub>OH they give blue solns. which become red upon dilution or evaporation, reforming the unchanged starting material. The red solution of carminic acid in an excess of aqueous NH<sub>4</sub>OH gives an indigo-blue color with very concentrate strong bases, which soon disappears. The absorption spectrum of the solution is almost identical with that of compound (V). Fecht's indane-1,3-dioneindane-2,2-spirane (IV), from o-xylene, bromine, indane-1,3-dione and NaOEt (cf. C. A., 2,75) is impure, and gives anhydrobis-1,3-dioneindane-2,2-spirane (V), pale yellow flakes, m. 256-7°, by repeated solution in C<sub>6</sub>H<sub>6</sub> and precipitation with petroleum ether. This compound gives with PbNHNH<sub>2</sub> the brownish red hydrazone of Fecht's spirane. A very dilute alc. solution gives an intense indigo color with a drop of concentrate KOH. The pure indane-1,3-dioneindane-2,2-spirane (IV), golden-yellow thick prisms, m. 149°, gives a violet color with concentrate H<sub>2</sub>SO<sub>4</sub>, but no color with KOH. The ethereal mother liquor from the preparation of (IV) still contains indane-1,3-dione-1-ethoxy-2,2-spirane (VI), which forms yellow prisms, m. 199-200°. It is not colored by alks., but gives a red color with concentrate H<sub>2</sub>SO<sub>4</sub>. 1-Imino-3-indanoneindane-2,2-spirane (VII), obtained in quant. yields by heating indane-1,3-dioneindane-2,2-spirane with an excess of alc. NH<sub>3</sub> in a sealed tube at 110° for 6 hrs. forms brick-red flakes. Cyclopropanecyclopentanedione-1,1-spirane-3,4-dicarboxylic acid (VIII), from Et cyclopropane-1,1-dicarboxylate, Et succinate and NaNH<sub>2</sub>, loses 2CO<sub>2</sub> on being heated above its m. p., giving the compound (IX). It is converted into the anhydride (X), small white needles, at 180-200°, or by heating with Ac<sub>2</sub>O. The anhydride reacts with b. H<sub>2</sub>O to give the cis-form of the acid (VIII). Bisdihydroxyquinoline-3,3-spirane (bisdihydrocarbostyryls spirane) (XI), from the reduction of Et di-o-nitrobenzylmalonate, sublimes above 360° (decompose) in colorless, shining flakes. It gives a labile aminohydrobromide when HBr is passed into a suspension in AcOH. The mother liquors from the reduction give the red ansino ester (XII) upon treatment with NH<sub>2</sub>. At 150° it is converted into (XI). Ethyl di-p-nitrobenzylmalonate, white needles, m 171°, is formed from (PhCH<sub>2</sub>)<sub>2</sub>C(CO<sub>2</sub>Et)<sub>2</sub> by the action of fuming HNO<sub>3</sub> in AcOH.  
 IT 861591-41-5P, Malonic acid, bis(o-aminobenzyl)-, diethyl ester (preparation of)  
 RN 861591-41-5 HCAPLUS  
 CN Malonic acid, bis(o-aminobenzyl)-, diethyl ester (1CI) (CA INDEX NAME)



CC 10 (Organic Chemistry)  
 IT 5732-35-4P, 3,3'-(4,4')-Spirobiscarbostyryl 7142-69-0P, Malonic acid, bis(p-nitrobenzyl)-, diethyl ester 859961-19-6P, 2,2'-Spirobiindan-1,3-dione, 1'-ethoxy- 860756-38-3P, 2,2'-Spirobiindan-1-one, 3-imino- 861591-41-5P, Malonic acid, bis(o-aminobenzyl)-, diethyl ester (preparation of)

L26 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1914:4414 HCAPLUS

DOCUMENT NUMBER: 8:4414

ORIGINAL REFERENCE NO.: 8:660g-i

TITLE: Condensation products of nitrated benzyl chlorides with acetylacetone, methyl-acetylacetone and cyanoacetic esters

AUTHOR(S): Mech, H.

SOURCE: Compt. rend. (1914), 157, 941-3

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

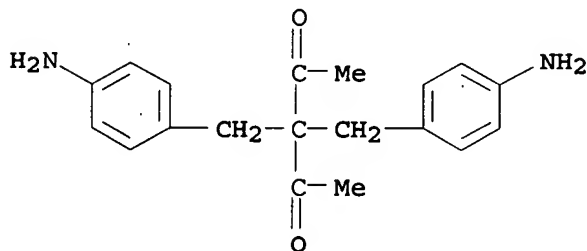
ED Entered STN: 16 Dec 2001

AB cf. Compl. rend., 143, 751; C. A., 21, 2688. On reduction, (p-O<sub>2</sub>NH<sub>4</sub>CH<sub>2</sub>)CAC<sub>2</sub> readily formed the di-p-amino derivative, powder, m. 126°, chloroplatinate, reddish brown powder. When p-O<sub>2</sub>NC<sub>4</sub>H<sub>4</sub>CH<sub>2</sub>Cl acts upon Ac<sub>2</sub>CHMe, AcOH and methyl-p-nitrophenylbutanone, AcCHMe.CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> powder, m. 54°, were obtained. Its oxime, prisms, m. 121°; semicarbazone, yellow microcrystals, m. 199°. By the usual condensation with O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Cl and NCCH<sub>2</sub>CO<sub>2</sub>Me M. prepared methyl di-o-nitrobenzylcyanoacetate, microcrystals, m. 103°, and the p-isomer, powder, m. 161°.

IT 859949-96-5P, 2,4-Pentanedione, 3,3-bis(p-aminobenzyl)- (preparation of)

RN 859949-96-5 HCAPLUS

CN 2,4-Pentanedione, 3,3-bis(p-aminobenzyl)- (1CI) (CA INDEX NAME)



CC 10 (Organic Chemistry)

IT 56751-40-7P, Isobutyric acid,  $\alpha$ -cyano- $\beta,\beta'$ -bis[p-nitrophenyl]-, methyl ester 470448-77-2P, Isobutyric acid,  $\alpha$ -cyano- $\beta,\beta'$ -bis[o-nitrophenyl]-, methyl ester  
859949-96-5P, 2,4-Pentanedione, 3,3-bis(p-aminobenzyl)-  
(preparation of)

=> d his nofile

(FILE 'HOME' ENTERED AT 08:00:59 ON 04 JUN 2007)

FILE 'HCAPLUS' ENTERED AT 08:01:18 ON 04 JUN 2007

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L1      1 SEA ABB=ON  PLU=ON  US20050288480/PN
        SEL RN

FILE 'REGISTRY' ENTERED AT 08:01:34 ON 04 JUN 2007
L2      47 SEA ABB=ON  PLU=ON  (100-11-8/BI OR 110-53-2/BI OR
        115974-97-5/BI OR 117076-44-5/BI OR 121-33-5/BI OR
        141-82-2/BI OR 2009-83-8/BI OR 2033-24-1/BI OR 3943-97-3/BI
        OR 4224-70-8/BI OR 439798-60-4/BI OR 57-88-5/BI OR
        653306-84-4/BI OR 653306-91-3/BI OR 653306-99-1/BI OR
        653307-04-1/BI OR 653307-14-3/BI OR 653307-19-8/BI OR
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        654062-61-0/BI OR 83540-57-2/BI)
L3      STR
L4      0 SEA SSS SAM L3
L5      STR L3
L6      0 SEA SSS SAM L5
L7      SCR 1098
L8      0 SEA SSS SAM L5 AND L7
L9      SCR 1569
L10     0 SEA SSS SAM L5 AND L7 AND L9
L11     0 SEA SSS SAM L5 AND L9
L12     0 SEA SSS SAM L5
L13     STR
L14     0 SEA SSS SAM L13
L15     STR L13
L16     0 SEA SSS SAM L15
        D QUE STAT
L17     77 SEA SSS FUL L15
L18     15 SEA ABB=ON  PLU=ON  L17 AND L2
        SAV L17 LIS523/A

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FILE 'HCAPLUS' ENTERED AT 08:27:41 ON 04 JUN 2007

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L19     53 SEA ABB=ON  PLU=ON  L17
L20     1 SEA ABB=ON  PLU=ON  L18
L21     16 SEA ABB=ON  PLU=ON  L19 AND (POLYMER? OR PLASTIC?)/SC,SX
L22     3 SEA ABB=ON  PLU=ON  L19 AND PHOTO?
L23     39 SEA ABB=ON  PLU=ON  L19 AND PREP/RL
L24     16 SEA ABB=ON  PLU=ON  L19 AND RACT/RL
L25     40 SEA ABB=ON  PLU=ON  (L21 OR L22 OR L23 OR L24)
L26     37 SEA ABB=ON  PLU=ON  L25 AND (1840-2003)/PRY,AY,PY

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